HIGHWAY CONSTRUCTION

km 1893.7 to km 1915.7
ALASKA HIGHWAY, Y.T.

VOLUME 1
CENTRELINE TESTING

This Data Package prepared for project viewing:

April, 1994

Transportation Engineering Branch
Geotechnical Services
201 Range Road
Whitehorse, Yukon

GR-01-156

GEOTECHNICAL INVESTIGATION
HIGHWAY CONSTRUCTION
km 1893.7 to km 1915.7, ALASKA HIGHWAY, Y.T.
CENTRELINE TESTING

CONTENTS

INTRODUCTION

Investigation notes, classification methods and legends.

VOLUME 1
CENTRELINE TESTING

Subsurface exploration and testing report sheets are provided. The reports for the centreline holes are arranged according to project location, starting at km 1893+700 and increasing to km 1915+625.

Auger Testing

1991	TEST HOLES 1 to 18 & 20	shown with prefix 139-
	TEST HOLES 21 to 43	shown with prefix 140-
	TEST HOLES 47 to 59	shown with prefix 141-
	TEST HOLES 143 to 157	shown with prefix 145-
1992	TEST HOLES 18 to 23	shown with prefix 174-
	TEST HOLES 24 to 48	shown with prefix 175-
	TEST HOLES 49 to 70	shown with prefix 194-
	TEST HOLES 71 to 76 & 80	shown with prefix 195-
	TEST HOLES 87 to 95	shown with prefix 195-
	TEST HOLES 96 to 110	shown with prefix 196-
	TEST HOLES 117 to 120	shown with prefix 196-
	TEST HOLES 121 to 145	shown with prefix 197-
	TEST HOLES 146 to 169	shown with prefix 198-
	TEST HOLES 182 to 183	shown with prefix 207-
1993	TEST HOLES 00 to 05	shown with prefix 244-
	TEST HOLES 12 to 13	shown with prefix 244-
	TEST HOLES 17 to 24 & 28	shown with prefix 244-
	TEST HOLES 33, 34, 41 & 42	shown with prefix 245-
	TEST HOLES 45 to 59	shown with prefix 245-

Backhoe Testing

1993	TEST HOLES 16 to 29 & 33	shown with prefix 257-
	TEST HOLES 37 to 42	shown with prefix 258-
	TEST HOLES 30 to 31	shown with prefix 274-

Air Rotary Testing

1994	TEST HOLE 6	shown with prefix 281-

GEOTECHNICAL INVESTIGATION
HIGHWAY CONSTRUCTION
km 1893.7 to km 1915.7, ALASKA HIGHWAY, Y.T.
CENTRELINE TESTING

CONTENTS (Cont'd)

VOLUME 2
GRAIN SIZE SUMMARIES

VOLUME 3
GRANULAR AND BORROW TESTING

Km 1895.5 LHS
Testing results bound separately.

Km 1902 LHS
Auger Testing

1991	TEST HOLES 21 to 23	shown with prefix 138-

EBA Backhoe Testing

1992	TEST HOLES 30 & 31	shown with prefix EBA-

Air Rotary Testing

1994	TEST HOLES 30 to 46	shown with prefix 284-

Km 1904 LHS
EBA Backhoe Testing

1992	TEST HOLES 32 to 34	shown with prefix EBA-

Air Rotary Testing

1993	TEST HOLES 35 to 40	shown with prefix 245-
	TEST HOLES 30 to 32	shown with prefix 257-
1994	TEST HOLES 13 to 29	shown with prefix 281-, 282-, & 284-

Km 1904 RHS
Backhoe Testing

1993	TEST HOLES 41 to 44	shown with prefix 274- and 275-

Air Rotary Testing

1993	TEST HOLES 123 to 128	shown with prefix 219-
1994	TEST HOLES 7 to 12	shown with prefix 281-

Km 1907 RHS
Auger testing

1993	TEST HOLES 6 to 11	shown with prefix 244-

Backhoe Testing

1993	TEST HOLES 34 to 36	shown with prefix 257-
	TEST HOLES 37 to 40	shown with prefix 274-

Km 1915.4 LHS
Backhoe Testing

1993	TEST HOLES 43 to 46	shown with prefix 258-
	TEST HOLES 32 to 36	shown with prefix 274-

INTRODUCTION

GEOTECHNICAL INVESTIGATION
HIGHWAY CONSTRUCTION
km 1893.7 to km 1915.7, ALASKA HIGHWAY, Y.T.
CENTRELINE TESTING

GEOTECHNICAL INVESTIGATION DATA

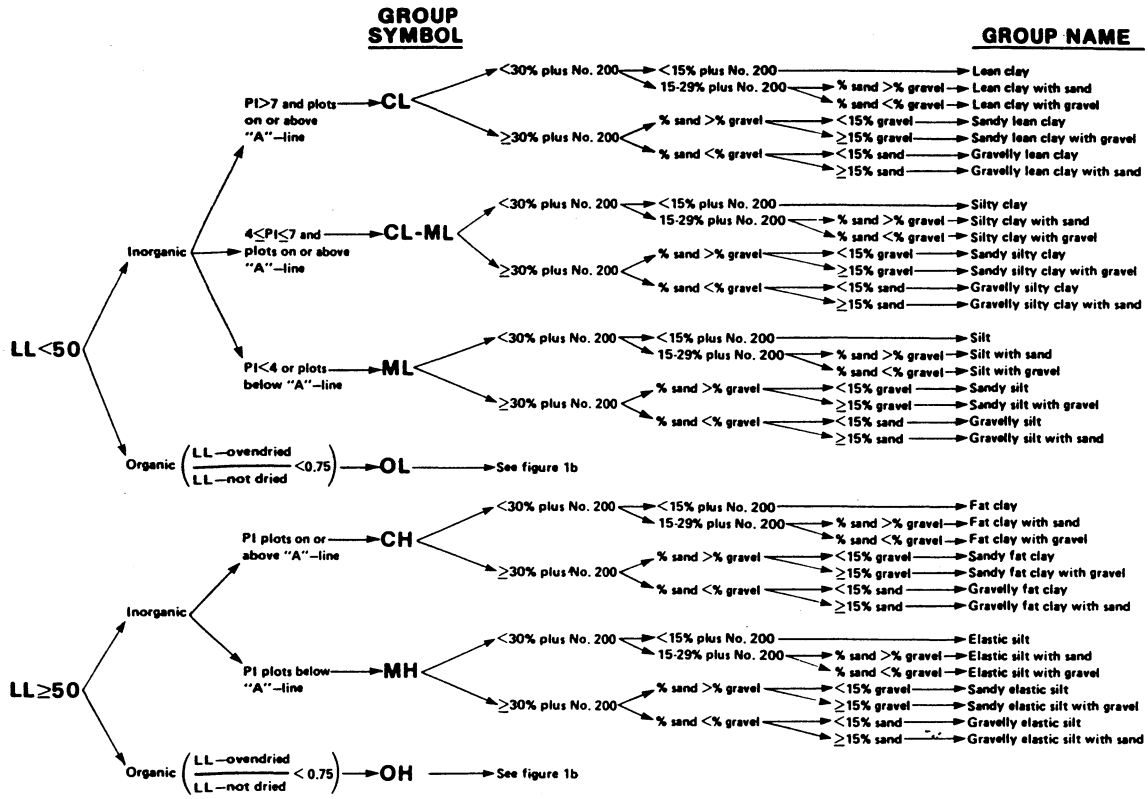
This geotechnical investigation data is provided to assist in the interpretation of soil conditions encountered within this project area. The data presented was prepared solely for Departmental designing and estimating purposes.

The description of material/soil description shown on the subsurface exploration and test reports is a textural description based on identification of retrieved material by the field drilling technician at the time of investigation. This description may be modified following laboratory testing and classification of selected samples. The system used is based on the ASTM standards for identification and classification of soils. Permafrost classifications and groundwater levels are indicated as detected at time of drilling, unless otherwise noted. Changes in moisture or frost conditions should be anticipated depending on the season, time lapse or amount of development work done since the date of investigation.

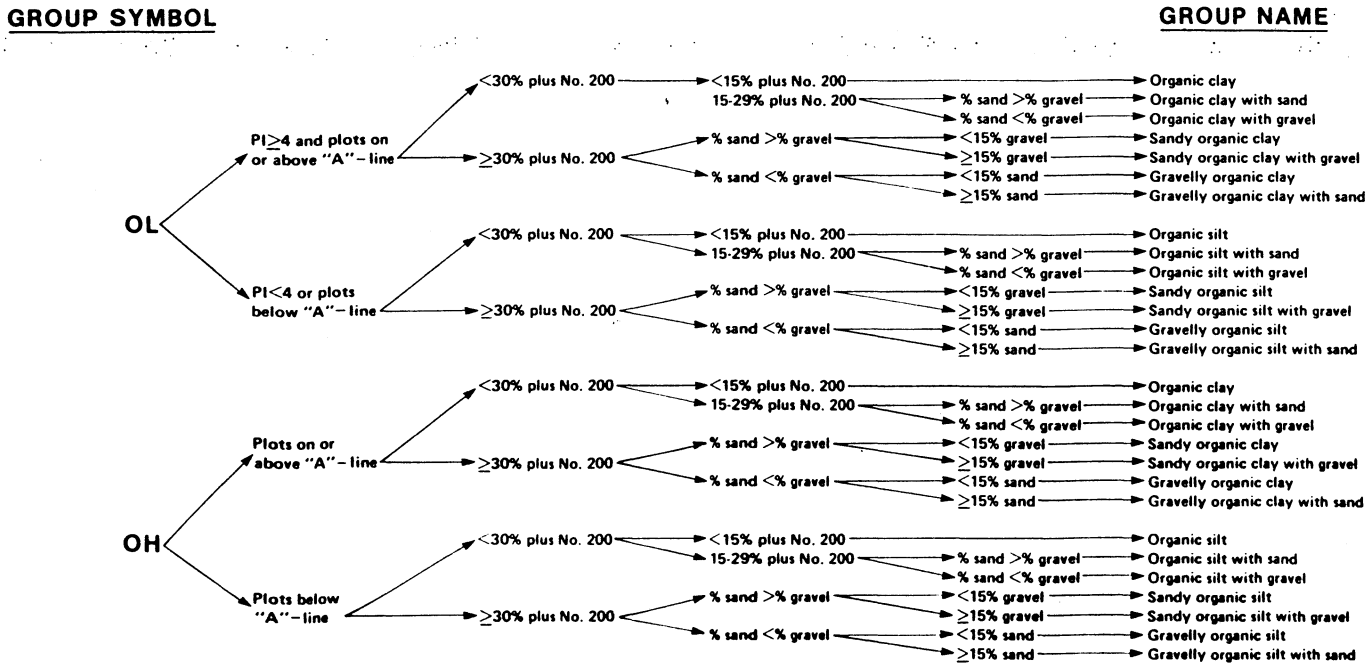
The sample identification and laboratory testing data is provided to give detailed physical properties of selected retrieved samples within the subsurface profile. ***These tests may be conducted on disturbed samples and may exhibit properties different from the native materials.*** The sample classification may also vary from the soil description due to variations within the sampled strata or because of changes resulting from the sampling method or excavation equipment used.

These descriptions are not intended to be conclusive as to the nature of any material encountered, or to conditions between or around the test borings/pits.

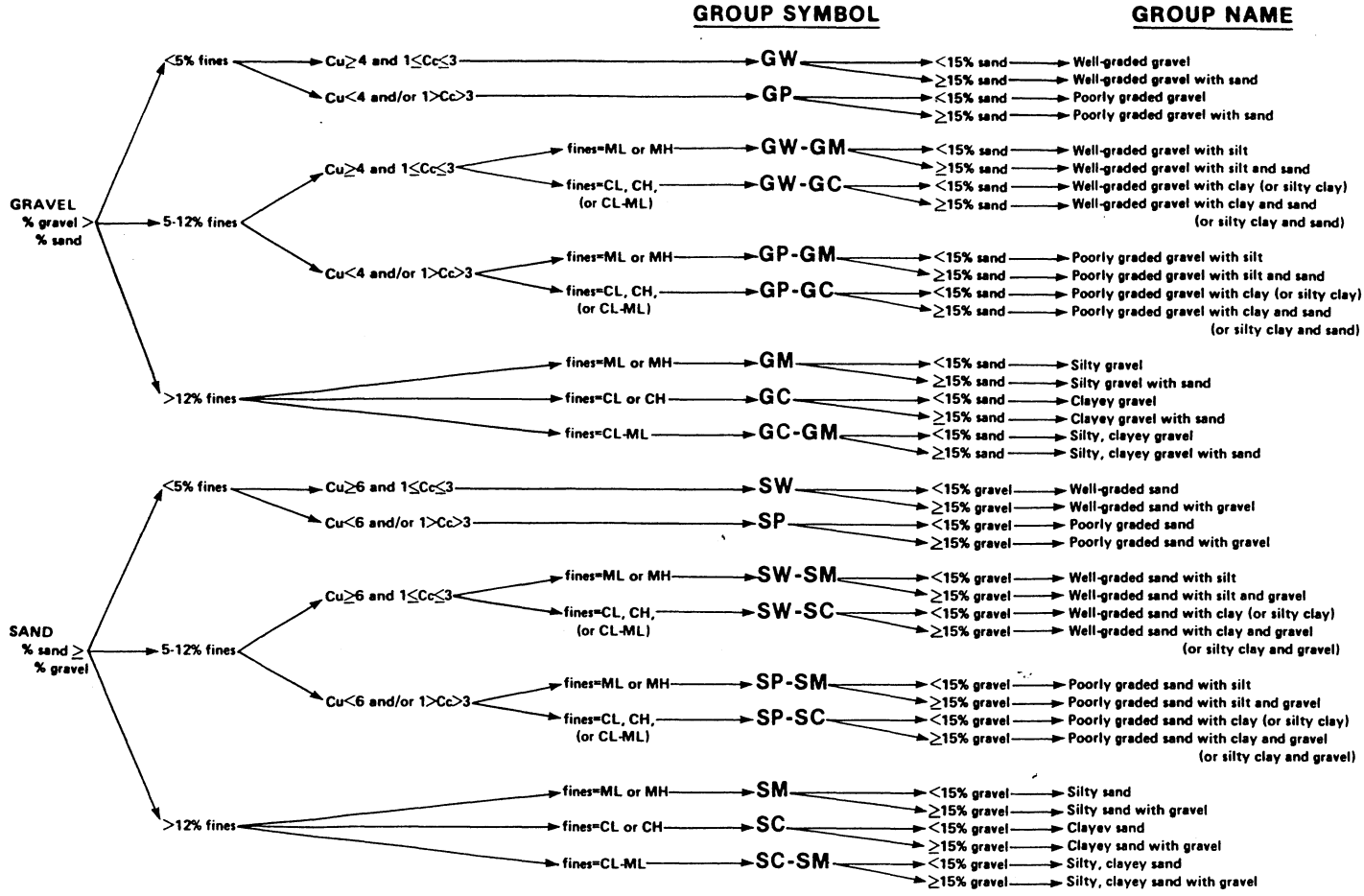
It is recommended that a site inspection, combined with consideration of the regional geology and climatic conditions be conducted. An evaluation of the investigation methods and development work done since the time of investigation should be done prior to interpreting the subsurface conditions for construction purposes.



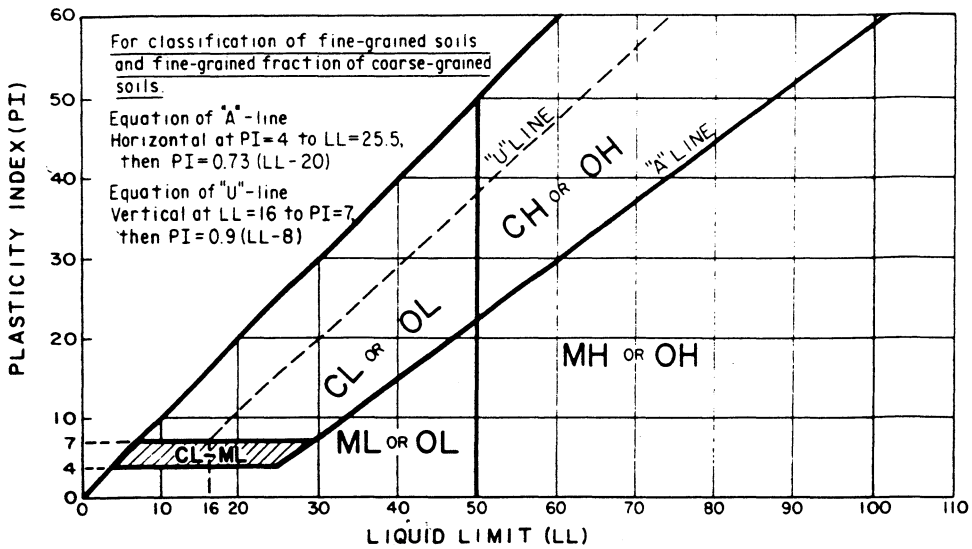
Flow chart for classifying fine-grained soil.



Flow chart for classifying organic soil.



Flow chart for classifying coarse-grained soil.



Plasticity chart.

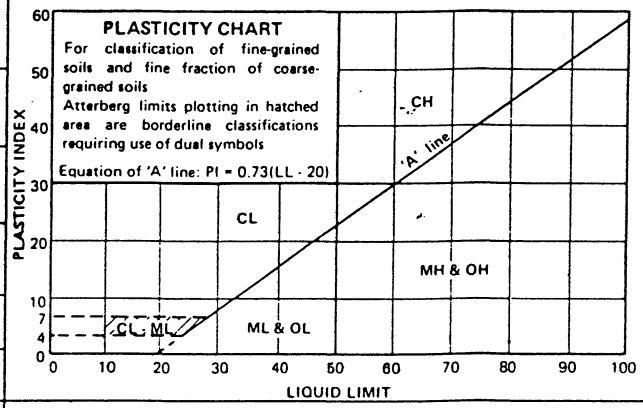
CRITERIA FOR ASSIGNING GROUP SYMBOLS AND GROUP NAMES USING LABORATORY TESTS [a]				SOIL CLASSIFICATION	
				GROUP SYMBOL	GROUP NAME [b]
COARSE-GRAINED SOILS more than 50% retained on No. 200 sieve	GRAVELS More than 50% of coarse fraction retained on No. 4 sieve	CLEAN GRAVELS Less than 5% fines [c]	$C_u \geq 4$ and $1 \leq C_c \leq 3$ [e]	GW	Well-graded gravel [f]
			$C_u < 4$ and/or $1 > C_c > 3$ [e]	GP	Poorly graded gravel [f]
		GRAVELS WITH FINES More than 12% fines [c]	Fines classify as ML or MH	GM	Silty gravel [f,g,h]
			Fines classify as CL or CH	GC	Clayey gravel [f,g,h]
	SANDS 50% or more of coarse fraction passes No. 4 sieve	CLEAN SANDS Less than 5% fines [d]	$C_u \geq 6$ and $1 \leq C_c \leq 3$ [e]	SW	Well-graded sand [i]
			$C_u < 6$ and/or $1 > C_c > 3$ [e]	SP	Poorly graded sand [i]
		SANDS WITH FINES More than 12% fines [d]	Fines classify as ML or MH	SM	Silty sand [g,h,i]
			Fines classify as CL or CH	SC	Clayey sand [g,h,i]
FINE-GRAINED SOILS 50% or more passed the No. 200 sieve	SILTS AND CLAYS Liquid limit less than 50%	inorganic	PI > 7 and plots on or above "A" line [j]	CL	Lean clay [k,l,m]
			PI < 4 or plots below "A" line [j]	ML	Silt [k,l,m]
		organic	$\frac{\text{Liquid limit - oven dried}}{\text{Liquid limit - not dried}} < 0.75$	OL	Organic clay [k, l, m, n] Organic silt [k, l, m, o]
	SILTS AND CLAYS Liquid limit 50% or more	inorganic	PI plots on or above "A" line	CH	Fat clay [k,l,m]
			PI plots below "A" line	MH	Elastic silt [k,l,m]
		organic	$\frac{\text{Liquid limit - oven dried}}{\text{Liquid limit - not dried}} < 0.75$	OH	Organic clay [k, l, m, p] Organic silt [k, l, m, q]
Highly organic soils		Primarily organic matter, dark in color, and organic odor		PT	Peat

a. Based on the material passing the 3-in (75-mm) sieve.
b. If field sample contained cobbles and/or boulders, add "with cobbles and/or boulders" to group name.
c. Gravels with 5 to 12% fines require dual symbols
   GW-GM well graded gravel with silt
   GW-GC well graded gravel with clay
   GP-GM poorly graded gravel with silt
   GP-GC poorly graded gravel with clay
d. Sands with 5 to 12% fines require dual symbols
   SW-SM well graded sand with silt
   SW-SC well graded sand with clay
   SP-SM poorly graded sand with silt
   SP-SC poorly graded sand with clay
e. $C_u = D_{60}/D_{10}$ $\quad C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$
f. If soil contains $\geq$ 15% sand, add "with sand" to group name.
g. If fines classify as CL-ML, use dual symbol GC-GM, SC-SM.
h. If fines are organic, add "with organic fines" to group name.
i. If soil contains $\geq$ 15% gravel, add "with gravel" to group name.
j. If Atterberg limits plot in hatched area, soil is a CL-ML, silty clay.
k. If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel" whichever is predominant.
l. If soil contains $\geq$ 30% plus No. 200, predominantly sand, add "sandy" to group name.
m. If soil contains $\geq$ 30% plus No. 200, predominantly gravel, add "gravelly" to group name.
n. PI $\geq$ 4 and plots on or above "A" line.
o. PI $<$ 4 or plots below "A" line.
p. PI plots on or above "A" line.
q. PI plots below "A" line.

Soil classification chart

UNIFIED SOIL CLASSIFICATION†

MAJOR DIVISIONS			GROUP SYMBOLS	TYPICAL NAMES	CLASSIFICATION CRITERIA		
COARSE-GRAINED SOILS More than 50% retained on No. 200 sieve*	GRAVELS 50% or more of coarse fraction retained on No. 4 sieve	CLEAN GRAVELS	GW	Well-graded gravels and gravel-sand mixtures, little or no fines	Classification on basis of percentage of fines Less than 5% pass No. 200 sieve: GW, GP, SW, SP More than 12% pass No. 200 sieve: GM, GC, SM, SC 5% to 12% pass No. 200 sieve: Borderline classification requiring use of dual symbols	$C_u = D_{60}/D_{10}$ Greater than 4 $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ Between 1 and 3	
			GP	Poorly-graded gravels and gravel-sand mixtures, little or no fines		Not meeting both criteria for GW	
		GRAVELS WITH FINES	GM	Silty gravels, gravel-sand-silt mixtures		Atterberg limits plot below 'A' line or plasticity index less than 4	Atterberg limits plotting in hatched area are borderline classifications requiring use of dual symbols
			GC	Clayey gravels, gravel-sand clay mixtures		Atterberg limits plot above 'A' line and plasticity index greater than 7	
	SANDS More than 50% of coarse fraction passes No. 4 sieve	CLEAN SANDS	SW	Well-graded sands and gravelly sands, little or no fines		$C_u = D_{60}/D_{10}$ Greater than 6 $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ Between 1 and 3	
			SP	Poorly-graded sands and gravelly sands, little or no fines		Not meeting both criteria for SW	
		SANDS WITH FINES	SM	Silty sands, sand-silt mixtures		Atterberg limits plot below 'A' line or plasticity index less than 4	Atterberg limits plotting in hatched area are borderline classifications requiring use of dual symbols
			SC	Clayey sands, sand-clay mixtures		Atterberg limits plot above 'A' line and plasticity index greater than 7	
FINE-GRAINED SOILS 50% or more passes No. 200 sieve*	SILTS AND CLAYS Liquid limit 50% or less		ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands	PLASTICITY CHART For classification of fine-grained soils and fine fraction of coarse-grained soils Atterberg limits plotting in hatched area are borderline classifications requiring use of dual symbols Equation of 'A' line: PI = 0.73(LL - 20)		
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays			
			OL	Organic silts and organic silty clays of low plasticity			
	SILTS AND CLAYS Liquid limit greater than 50%		MH	Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts			
			CH	Inorganic clay of high plasticity, fat clays			
			OH	Organic clays of medium to high plasticity			
HIGHLY ORGANIC SOILS			PT	Peat, muck and other highly organic soils			



*Based on the material passing the 3 in. (75 mm) sieve
†ASTM Designation D 2487, for identification procedure see D 2488

GROUND ICE DESCRIPTION

ICE NOT VISIBLE

GROUP SYMBOLS	SYMBOLS	SUBGROUP DESCRIPTION	
N	Nf	Poorly-bonded or friable	
	Nbn	No excess ice, well-bonded	
	Nbe	Excess ice, well-bonded	

VISIBLE ICE LESS THAN 50% BY VOLUME

GROUP SYMBOLS	SYMBOLS	SUBGROUP DESCRIPTION	
V	Vx	Individual ice crystals or inclusions	
	Vc	Ice coatings on particles	
	Vr	Random or irregularly oriented ice formations	
	Vs	Stratified or distinctly oriented ice formations	

VISIBLE ICE GREATER THAN 50% BY VOLUME

ICE	ICE + Soil Type	Ice with soil inclusions	
	ICE	Ice without soil inclusions (greater than 25 mm (1 in.) thick)	

NOTE:

1. *Dual symbols are used to indicate borderline or mixed ice classifications*
2. *Visual estimates of ice contents indicated on borehole logs ± 5%*
3. *This system of ground ice description has been modified from NRC Technical Memo 79, Guide to the Field Description of Permafrost for Engineering Purposes*

LEGEND

Soil Ice

	BOUNDARY LINES ON DRILL LOGS	TEST HOLE NO: 3
ENGINEERING–CAPITAL		Project No:
		ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⧄ S.P.T. ☒ AUGER ▤ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	BOUNDARY LINES							0.0
	A solid line is used when a definite soil change is logged and a depth is known.							
1.0	A dashed line is used when a definite soil change is noted either by the field log or the sample test results and the depth of change is unknown.							1.0
2.0	A dotted line is used when a gradual or gradational change is noted by field notes and sample test results.							2.0
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 6.0 m
	REVIEWED BY:	COMPLETE: / /
	Fig. No:	Page 1 of 1

93/12/13 04:36PM

CENTRELINE TESTING

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-59
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1893+700 o/s 5m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	SILTY GRAVEL WITH SAND (GM)			
	-saturated below 0.8m	AUGER	138	GM
1.0				
2.0	-grindy drilling below 1.9m			
	SILT (ML)			
	-frozen			
	-smooth drilling			
3.0				
4.0				
		AUGER	139	ML
5.0	END HOLE at 5.0m			
6.0				

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 5.0 m
	REVIEWED BY:	COMPLETE: 93/09/11
	Fig. No:	Page 1 of 1

93/11/16 11:17AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-58
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1893+800 o/s 6m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES (20 40 60 80) / PLASTIC M.C. LIQUID (20 40 60 80)	USC	SOIL SYMBOL	PERCENT SAND / PERCENT GRAVEL (20 40 60 80)	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
	SANDY SILT (ML)							
	-smooth drilling							
1.0		AUGER	136		ML			1.0
	-organics below 1.4m							
2.0	-frozen below 2.0m							2.0
	-very slow drilling below 2.0m							
	-some gravel from 2.7m to 3.2m							
3.0	-grindy drilling from 2.7m to 3.2m							3.0
	-smooth drilling below 3.2m							
4.0		AUGER	137		ML			4.0
5.0	END HOLE at 5.0m							5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 5.0 m
	REVIEWED BY:	COMPLETE: 93/09/11
	Fig. No:	Page 1 of 1

93/11/16 11:16AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-57
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1893+900	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES (20 40 60 80) / PLASTIC M.C. LIQUID (20 40 60 80)	USC	SOIL SYMBOL	PERCENT SAND / PERCENT GRAVEL (20 40 60 80)	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
	SILTY SAND WITH GRAVEL (SM)							
	-organics							
	-grindy drilling							
1.0		AUGER	134		SM			1.0
2.0								2.0
	-saturated below 2.2m							
	-smooth drilling below 2.2m							
	-slow drilling, possibly frozen							
3.0								3.0
4.0		AUGER	135		SM			4.0
	-grindy drilling below 4.5m							
	END HOLE at 4.6m							
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 93/09/11
	Fig. No:	Page 1 of 1

93/11/05 12:12PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-56
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1894+000 o/s 7m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SANDY SILTY GRAVEL -wet -smooth drilling				
1.0	SILT WITH SAND (ML) -wet to saturated	AUGER	133	ML	
	-grindy drilling at 1.8m				
2.0	-water at 2.4m -smooth drilling below 2.4m				
3.0					
4.0					
5.0	END HOLE at 5.0m				
6.0					

▲ PERCENT FINES ▲ (20 40 60 80); PLASTIC M.C. LIQUID (20 40 60 80); ◆ PERCENT SAND ◆ (20 40 60 80); ■ PERCENT GRAVEL ■ (20 40 60 80)

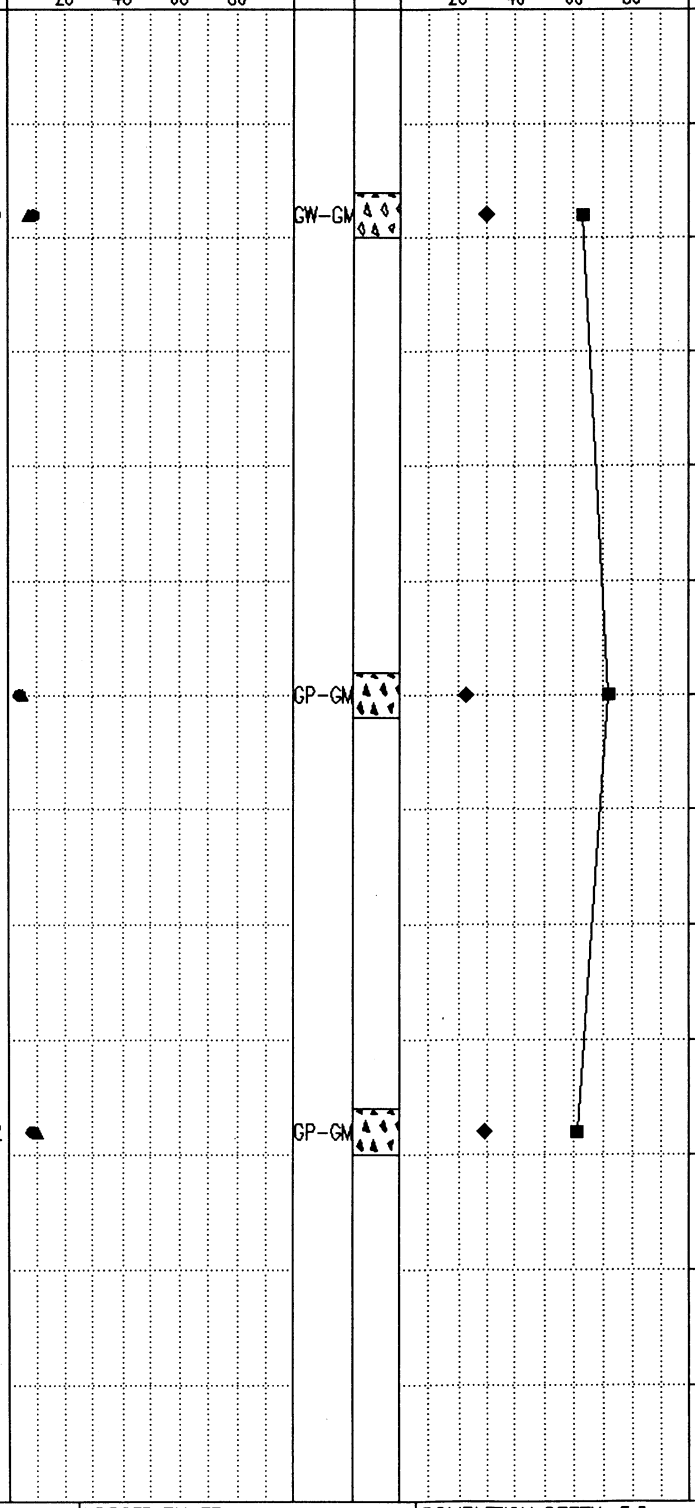
Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 5.0 m
	REVIEWED BY:	COMPLETE: 93/09/11
	Fig. No:	Page 1 of 1

93/11/05 03:27PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-55
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1894+100	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	WELL TO POORLY GRADED GRAVEL WITH SILT AND SAND (GW-GM TO GP-GM)				
	-grindy drilling				
1.0		AUGER	130	GW-GM	
2.0					
3.0		AUGER	131	GP-GM	
4.0					
5.0		AUGER	132	GP-GM	
	END HOLE at 5.0m				
6.0					



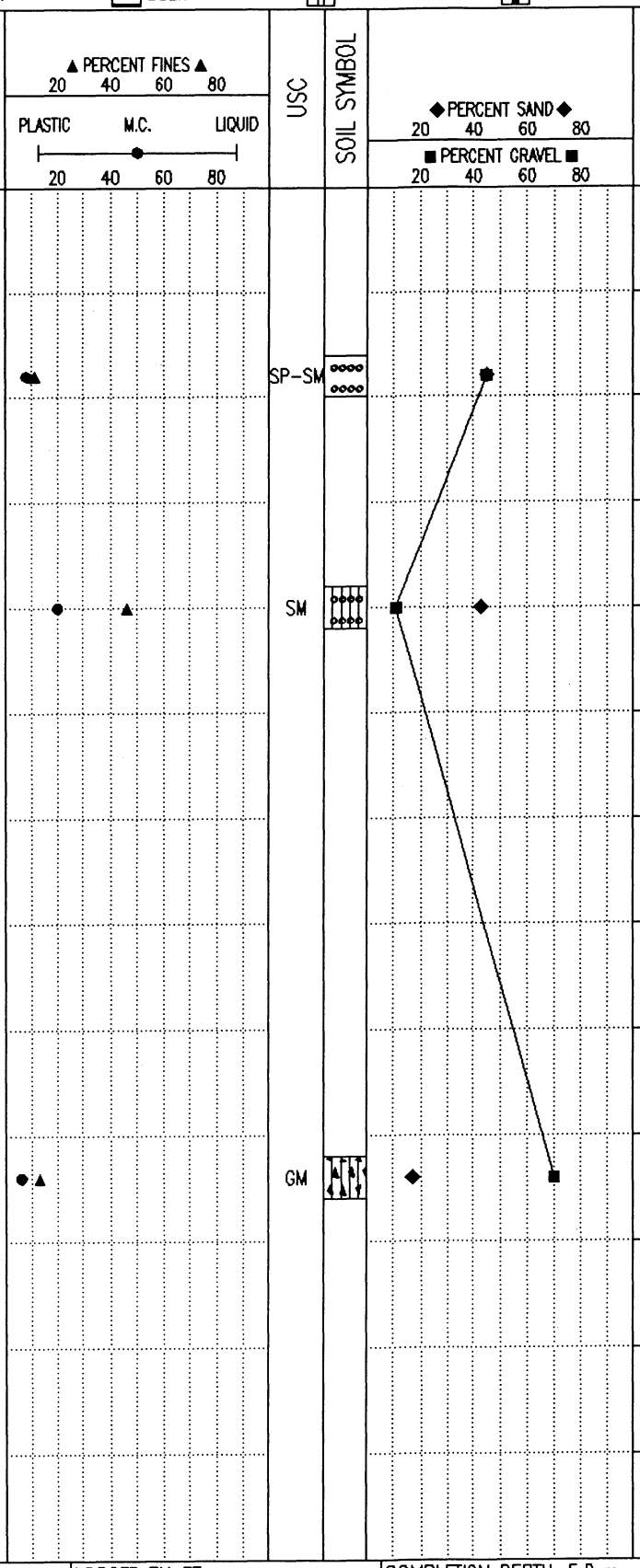
Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 5.0 m
	REVIEWED BY:	COMPLETE: 93/09/11
	Fig. No:	Page 1 of 1

93/11/05 12:09PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-54
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1894+200 o/s 5m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM) -organics -smooth drilling	AUGER	127	SP-SM
1.0	SILTY SAND (SM) -grindy drilling			
2.0		AUGER	128	SM
3.0				
	SILTY GRAVEL WITH SAND (GM) -grindy drilling -organics			
4.0				
		AUGER	129	GM
5.0	END HOLE at 5.0m			
6.0				



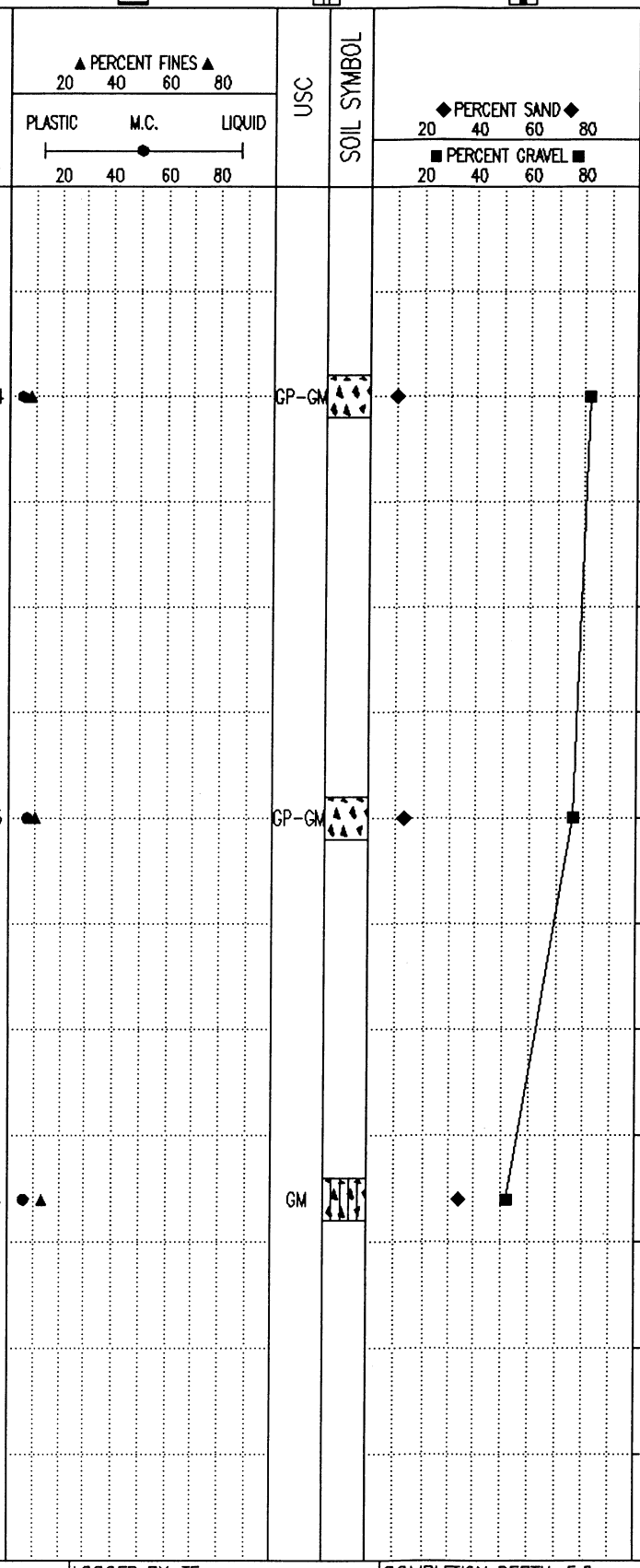
Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 5.0 m
	REVIEWED BY:	COMPLETE: 93/09/11
	Fig. No:	Page 1 of 1

93/11/05 12:07PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-53
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1894+300 o/s 5m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	POORLY GRADED GRAVEL WITH SILT (GP-GM)				
	-grindy drilling				
1.0	-smooth drilling below 1.0m	AUGER	124	GP-GM	
2.0					
3.0		AUGER	125	GP-GM	
4.0	SILTY GRAVEL WITH SAND (GM)				
	-smooth drilling				
		AUGER	126	GM	
5.0	END HOLE at 5.0m				
6.0					



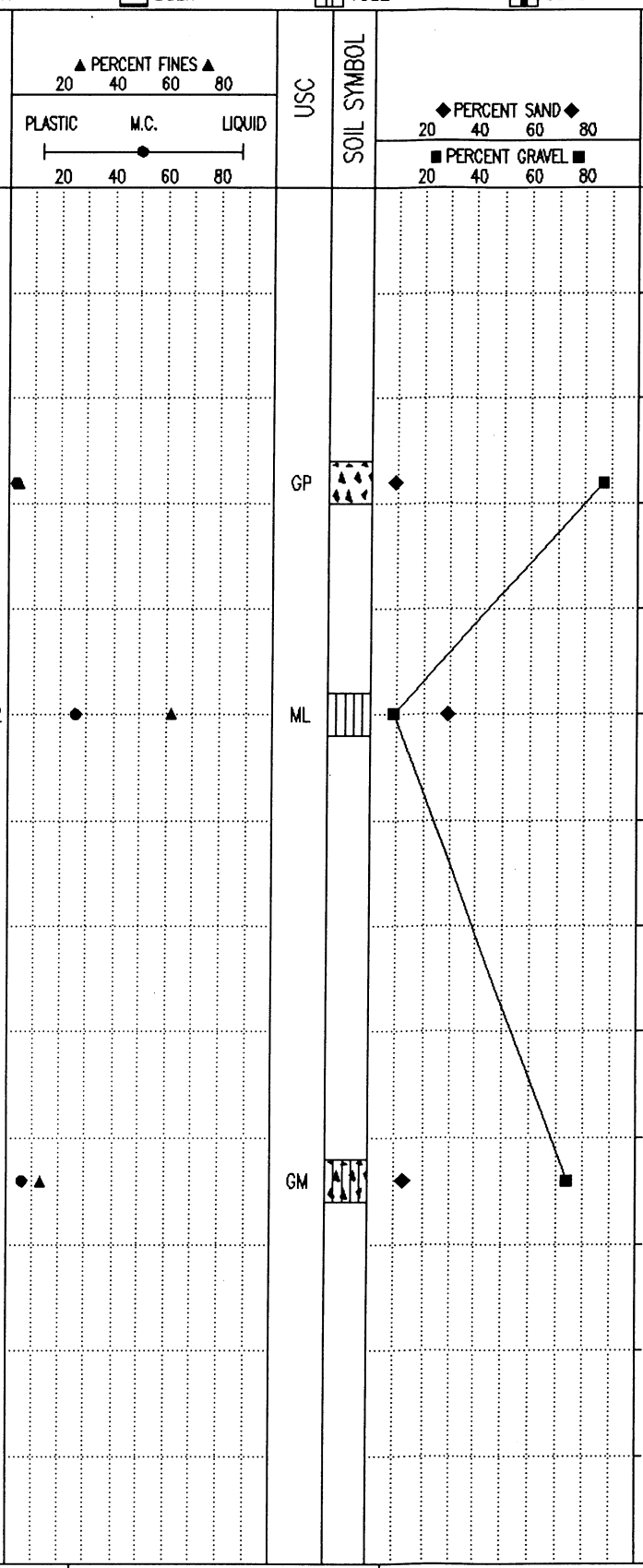
Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 5.0 m
	REVIEWED BY:	COMPLETE: 93/09/11
	Fig. No:	Page 1 of 1

93/11/05 12:06PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-52
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1894+400 o/s 6m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	POORLY GRADED GRAVEL (GP) -grindy drilling	AUGER	121	GP
2.0	SANDY SILT (ML) -wet -smooth drilling	AUGER	122	ML
3.0	SILTY GRAVEL (GM) -grindy drilling	AUGER	123	GM
5.0	END HOLE at 5.0m			
6.0				



Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 5.0 m
	REVIEWED BY:	COMPLETE: 93/09/11
	Fig. No:	Page 1 of 1

93/11/05 12:04PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-51
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1894+500	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ☒ S.P.T. ☒ AUGER ▤ BULK ▥ TUBE ▥ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
	SILTY SANDY GRAVEL -some boulders -grindy drilling							
1.0								1.0
2.0	END HOLE at 2.0m -refusal							2.0
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0

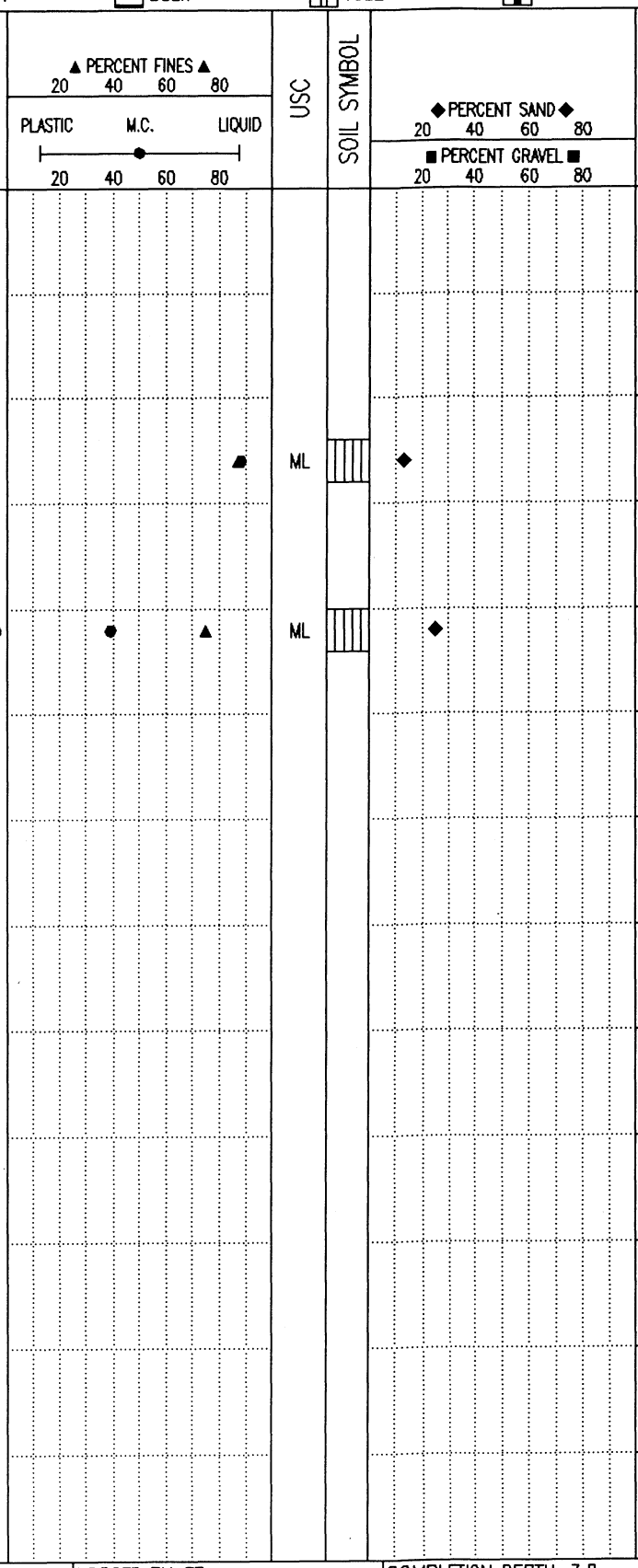
Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 2.0 m
	REVIEWED BY:	COMPLETE: 93/09/11
	Fig. No:	Page 1 of 1

93/11/05 12:03PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-50
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1894+600	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILT				
	ORGANIC MATERIAL -frozen -smooth drilling				
1.0	SILT (ML) -organic -frozen	AUGER	119	ML	
	SILT WITH SAND (ML) -organic -frozen	AUGER	120	ML	
2.0	SILTY GRAVEL -grindy drilling				
3.0					
4.0	END HOLE at 3.8m -refusal				
5.0					
6.0					



Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 3.8 m
	REVIEWED BY:	COMPLETE: 93/09/11
	Fig. No:	Page 1 of 1

93/11/05 12:01PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-49
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1894+700	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	SANDY SILT (ML) -organic -wet to saturated -frozen with visible ice below 0.7m -grindy drilling below 1.1m	AUGER	118	ML	
1.0					
	END HOLE at 1.4m -refusal				
2.0					
3.0					
4.0					
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

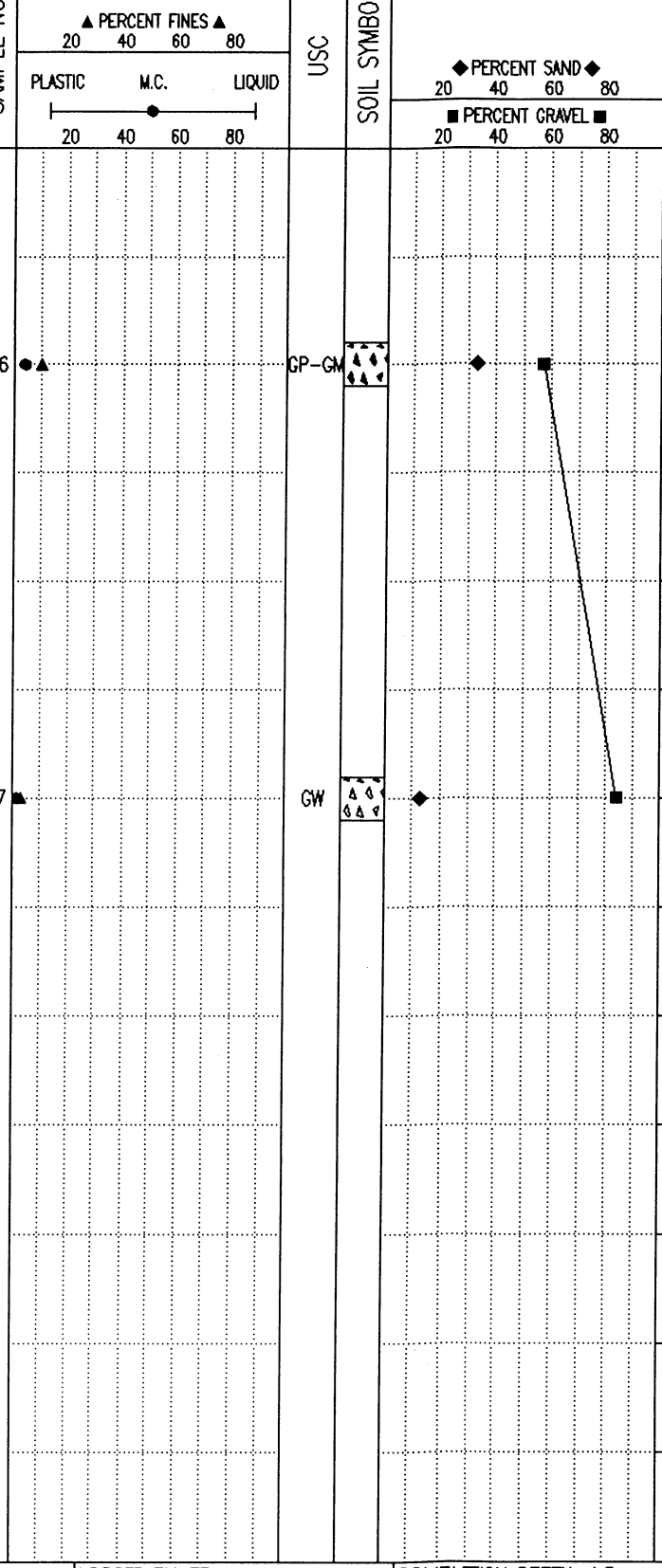
Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 1.4 m
	REVIEWED BY:	COMPLETE: 93/09/10
	Fig. No:	Page 1 of 1

93/11/05 12:00PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-48
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1894+800	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM)				
	-grindy drilling				
1.0		AUGER	116	GP-GM	
2.0	WELL-GRADED GRAVEL (GW)				
	-grindy drilling				
3.0	-few fines augering up	AUGER	117	GW	
4.0	-frozen below 3.9m				
	END HOLE at 4.5m				
5.0					
6.0					



Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 93/09/10
	Fig. No:	Page 1 of 1

93/11/05 03:25PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-47
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1894+900	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL –frozen with visible ice –first refusal at 0.8m, boulder				
1.0	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) –frozen –hard grindy drilling	AUGER	114	GW-GM	
2.0	SILTY GRAVEL WITH SAND (GM) –frozen –hard grindy drilling	AUGER	115	GM	
3.0					
4.0	END HOLE at 4.5m –refusal				
5.0					
6.0					

Plot: ▲ PERCENT FINES ▲ (20 40 60 80); PLASTIC M.C. LIQUID (20 40 60 80); ◆ PERCENT SAND ◆ (20 40 60 80); ■ PERCENT GRAVEL ■ (20 40 60 80)

Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 93/09/10
	Fig. No:	Page 1 of 1

93/11/06 11:57AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-46
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1895+000	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES (20 40 60 80) / PLASTIC M.C. LIQUID (20 40 60 80)	USC	SOIL SYMBOL	PERCENT SAND (20 40 60 80) / PERCENT GRAVEL (20 40 60 80)	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
	SANDY SILT (ML) -smooth drilling -frozen below 0.6m							
1.0		AUGER	112		ML			1.0
	SILT WITH SAND (ML) -frozen -smooth drilling							
2.0		AUGER	113		ML			2.0
	SILTY SANDY GRAVEL -frozen -grindy drilling							
3.0	-smooth drilling below 3.6m							3.0
4.0	END HOLE at 3.9m -refusal							4.0
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 3.9 m
	REVIEWED BY:	COMPLETE: 93/09/10
	Fig. No:	Page 1 of 1

93/11/05 11:55AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-45
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1895+100 o/s 4m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	GRAVELLY SAND -easy drilling				
1.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -boulders -grindy drilling -first refusal at 1.3m -few fines augering up	AUGER	111	GP-GM	
2.0					
3.0	END HOLE at 3.1m -refusal				
4.0					
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 3.1 m
	REVIEWED BY:	COMPLETE: 93/09/10
	Fig. No:	Page 1 of 1

93/11/05 03:24PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY GRANULAR INVESTIGATION	TEST PIT NO: 274-31
SHAKWAK PROJECT	SEGMENT 16	Project No: 092-202101-0312
BACKHOE: CAT 235	LOCATION: Sta. 1895+225	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES (20 40 60 80) / PLASTIC M.C. LIQUID (20 40 60 80)	USC	SOIL SYMBOL	PERCENT SAND (20 40 60 80) / PERCENT GRAVEL (20 40 60 80)	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
	SANDY SILT (ML) -gray-brown -frozen (Vx) with visible ice -trace of sand		37	▲ ●	ML		◆	
1.0								1.0
2.0								2.0
	END HOLE at 2.5m							
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0

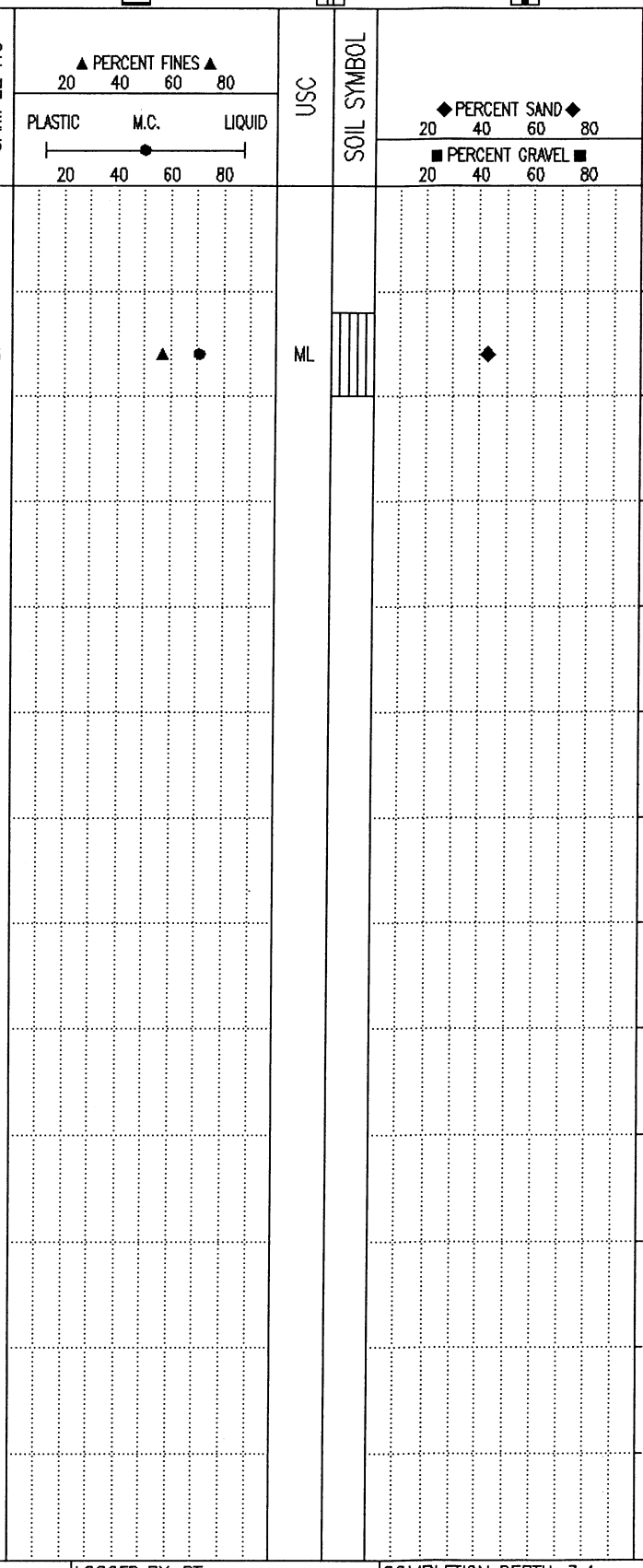
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 2.5 m
	REVIEWED BY:	COMPLETE: 93/11/11
	Fig. No:	Page 1 of 1

93/11/24 12:25PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY GRANULAR INVESTIGATION	TEST PIT NO: 274-30
SHAKWAK PROJECT	SEGMENT 16	Project No: 092-202101-0312
BACKHOE: CAT 235	LOCATION: Sta. 1895+350	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SANDY SILT (ML) -brown -frozen (Vx) with visible ice		36	ML	
1.0	-large ice lenses below 1.3m				
	-no visible ice below 1.7m (Nb)				
2.0	ORGANIC SILT -dark brown -frozen (Nb)				
3.0					
	END HOLE at 3.4m				
4.0					
5.0					
6.0					



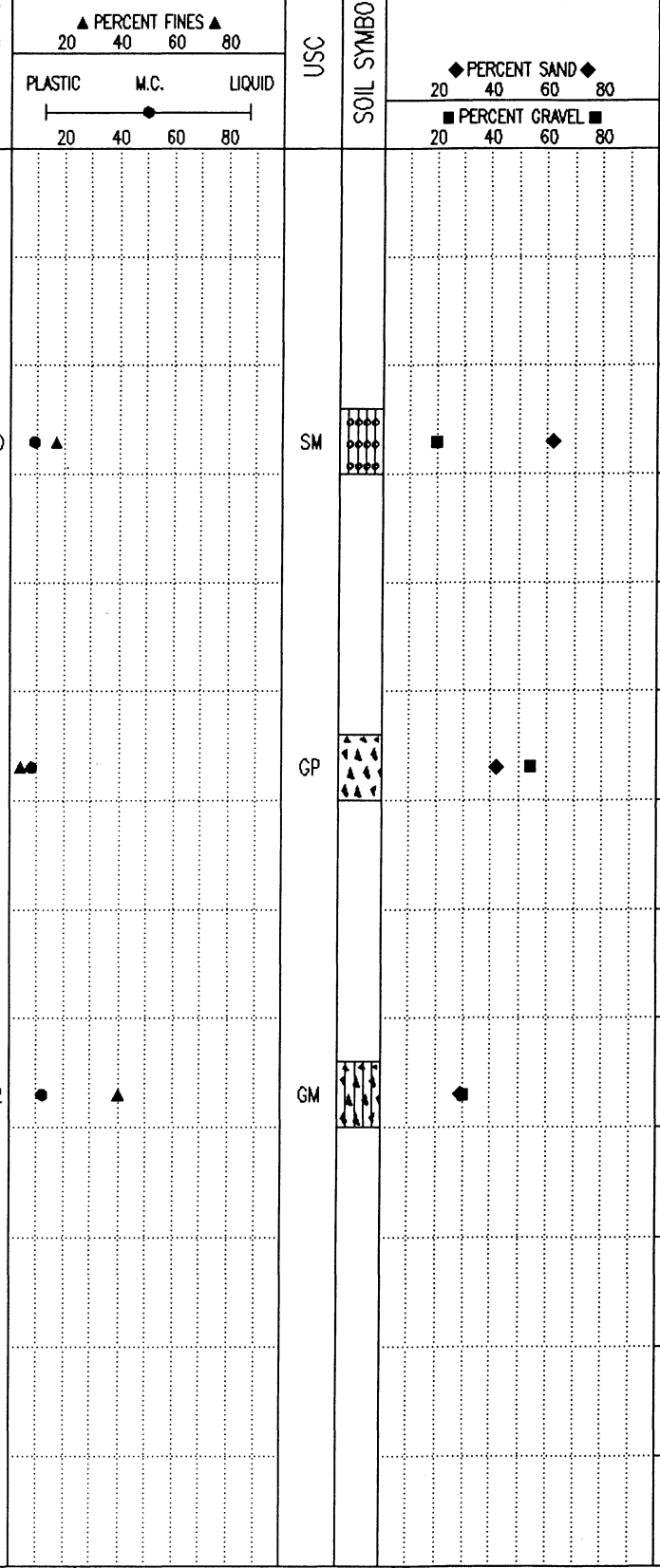
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 3.4 m
	REVIEWED BY:	COMPLETE: 93/11/11
	Fig. No:	Page 1 of 1

93/11/24 02:02PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 207-183
CLIENT: SHAKWAK PROJECT	A/H KM 1895-1916	Project No: SEGMENT 16
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1895+500	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
1.0	SILTY SAND WITH GRAVEL (SM) -brown -dry -easy drilling	AUGER	430	SM
2.0				
3.0	POORLY GRADED GRAVEL WITH SAND (GP) -brown -wet	AUGER	431	GP
4.0	SILTY GRAVEL WITH SAND (GM) -light brown -damp	AUGER	432	GM
5.0	END HOLE at 4.5m -spruce cover			
6.0				



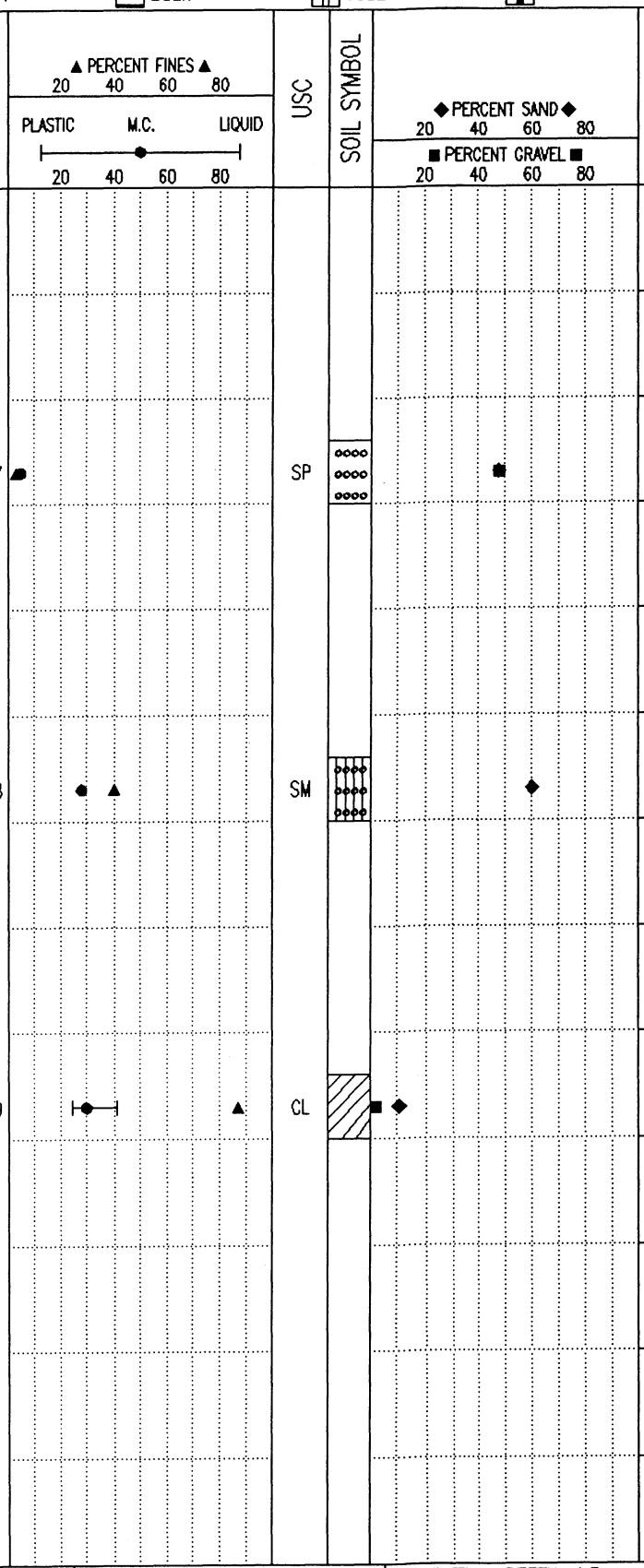
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/21
	Fig. No:	Page 1 of 1

93/11/15 02:03PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 207-182
CLIENT: SHAKWAK PROJECT	A/H KM 1895-1916	Project No: SEGMENT 16
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1895+650	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	POORLY GRADED SAND WITH GRAVEL (SP) -brown -moist -organics -easy drilling	AUGER	427	SP	
1.0					
2.0	SILTY SAND (SM) -brown -moist -organics	AUGER	428	SM	
3.0					
4.0	LEAN CLAY (CL) -light brown -moist	AUGER	429	CL	
	END HOLE at 4.5m -willow cover				
5.0					
6.0					



Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/21
	Fig. No:	Page 1 of 1

93/11/15 02:01PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-169
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1895+750	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	POORLY GRADED GRAVEL WITH SAND (GP) –brown –moist –hard drilling				
1.0		AUGER	393	GP	
2.0	POORLY GRADED SAND WITH GRAVEL (SP) –brown –wet				
3.0		AUGER	394	SP	
	WELL-GRADED SAND WITH SILT AND GRAVEL (SP-SM) –brown –wet				
4.0		AUGER	395	SW-SM	
	END HOLE at 4.5m –willow and spruce cover				
5.0					
6.0					

Plot columns: ▲ PERCENT FINES ▲ (20, 40, 60, 80); PLASTIC — M.C. — LIQUID (20, 40, 60, 80); ◆ PERCENT SAND ◆ (20, 40, 60, 80); ■ PERCENT GRAVEL ■ (20, 40, 60, 80)

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/19
	Fig. No:	Page 1 of 1

93/11/15 01:04PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-168
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1895+850	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	WELL TO POORLY GRADED GRAVEL WITH SILT AND SAND (GW-GM TO GP-GM) -brown -dry -hard drilling				
1.0		AUGER	390	GW-GM	
2.0	-moist below 2.1m				
		AUGER	391	GP-GM	
3.0	WELL-GRADED SAND WITH SILT AND GRAVEL (SW-SM) -brown -saturated				
4.0		AUGER	392	SW-SM	
	END HOLE at 4.5m -willow cover				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/19
	Fig. No:	Page 1 of 1

93/11/15 01:02PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-167
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1895+950	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -dry				
1.0		AUGER	387	GP-GM	
2.0	SILTY SAND WITH GRAVEL (SM) -brown -wet				
		AUGER	388	SM	
3.0					
	WELL-GRADED GRAVEL WITH SAND (GW) -brown -saturated -hard drilling				
4.0		AUGER	389	GW	
	END HOLE at 4.5m -willow cover				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/19
	Fig. No:	Page 1 of 1

93/11/15 01:01PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-166
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1896+050 o/s 5m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◩ S.P.T. ☒ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	WELL-GRADED GRAVEL WITH SAND (GW) -brown -damp	☒	384	GW	
1.0					
2.0	SANDY LEAN CLAY WITH GRAVEL (CL) -light brown -damp	☒	385	CL	
3.0					
4.0	SILT WITH SAND (ML) -light brown -damp	☒	386	ML	
	END HOLE at 4.5m -willow cover				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/19
	Fig. No:	Page 1 of 1

93/11/15 12:59PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-165
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1896+150 o/s 5m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ROAD FILL AND ORGANIC MATERIAL				
	WELL-GRADED GRAVEL WITH SAND (GW) -brown -moist	AUGER	380	GW	
1.0					
2.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -moist	AUGER	381	GP-GM	
3.0					
	WELL-GRADED SAND WITH GRAVEL (SW) -brown -wet	AUGER	382	SW	
4.0					
	END HOLE at 4.5m -in ditch				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/19
	Fig. No:	Page 1 of 1

93/11/15 12:58PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-164
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1896+250	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ROAD FILL AND ORGANIC MATERIAL				
1.0	SILTY SAND (SM) -brown -moist	AUGER	377	SM	
2.0					
	POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM) -brown -wet	AUGER	378	SP-SM	
3.0					
	POORLY GRADED SAND WITH GRAVEL (SP) -brown -saturated				
4.0		AUGER	379	SP	
	END HOLE at 4.5m -in ditch				
5.0					
6.0					

Scale: ▲ PERCENT FINES ▲ 20 40 60 80; PLASTIC M.C. LIQUID 20 40 60 80; ◆ PERCENT SAND ◆ 20 40 60 80; ■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/19
	Fig. No:	Page 1 of 1

93/11/15 12:56PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-163
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1896+350	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	POORLY GRADED SAND WITH SILT (SP-SM) -brown -damp				
1.0		AUGER	374	SP-SM	
	POORLY GRADED SAND WITH GRAVEL (SP) -brown -wet				
2.0					
		AUGER	375	SP	
3.0					
	-saturated below 3.6m				
4.0		AUGER	376	SP	
	END HOLE at 4.5m -willow cover				
5.0					
6.0					

Atterberg limits: PLASTIC, M.C., LIQUID

Grain size: ▲ PERCENT FINES ▲ (20, 40, 60, 80); ◆ PERCENT SAND ◆ (20, 40, 60, 80); ■ PERCENT GRAVEL ■ (20, 40, 60, 80)

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/19
	Fig. No:	Page 1 of 1

93/11/15 12:54PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-162
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1896+450 o/s 6m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ROAD FILL AND ORGANIC MATERIAL				
	POORLY TO WELL-GRADED GRAVEL WITH SILT AND SAND (GP-GM TO GW-GM) -brown -saturated				
1.0		AUGER	371	GP-GM	
2.0					
3.0		AUGER	372	GW-GM	
	SANDY LEAN CLAY WITH GRAVEL (CL) -light brown -wet				
4.0		AUGER	373	CL	
	END HOLE at 4.5m -in ditch				
5.0					
6.0					

Percent fines, plastic limit, M.C., liquid limit, percent sand, percent gravel: 20 40 60 80

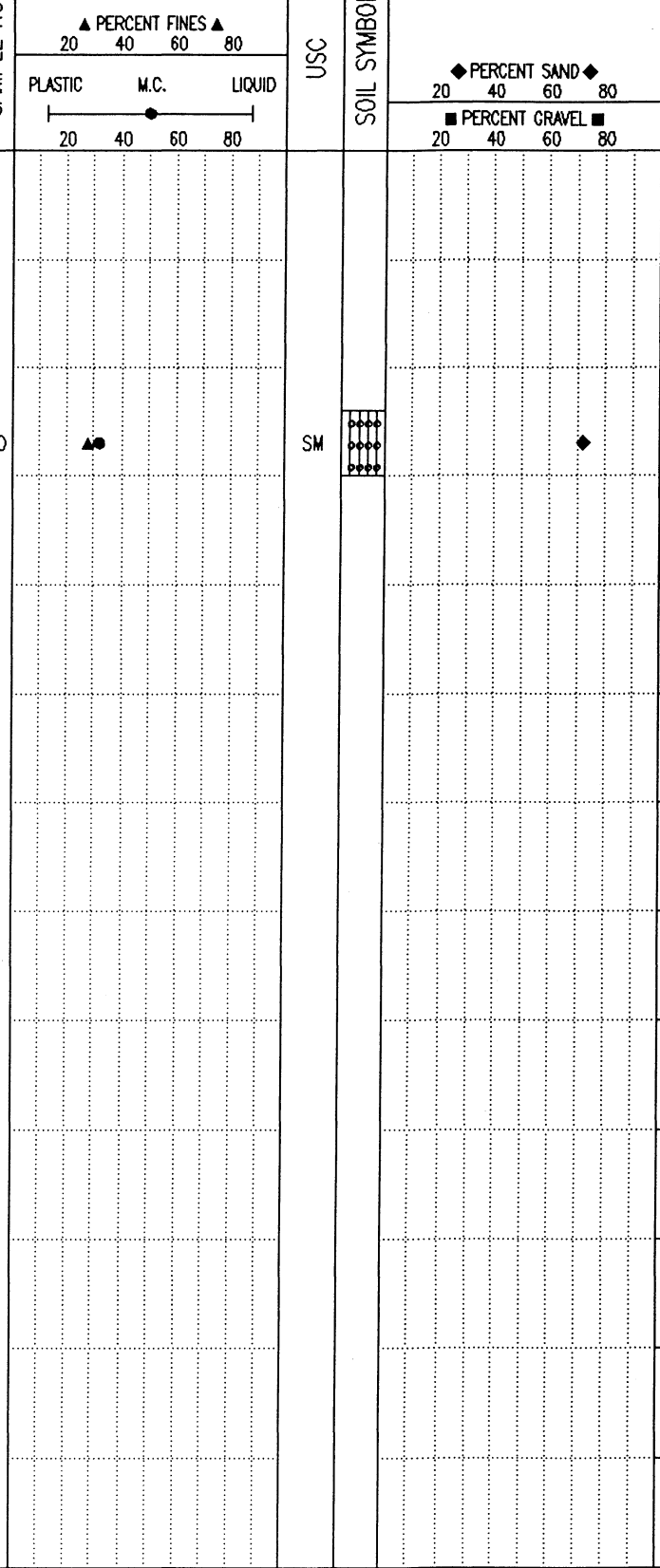
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/19
	Fig. No:	Page 1 of 1

93/11/15 12:53PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-161
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1896+550 o/s 8m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
1.0	SILTY SAND (SM) -brown -saturated -organics	AUGER	370	SM	
2.0	END HOLE at 2.0m -refusal -swamp cover				
3.0					
4.0					
5.0					
6.0					



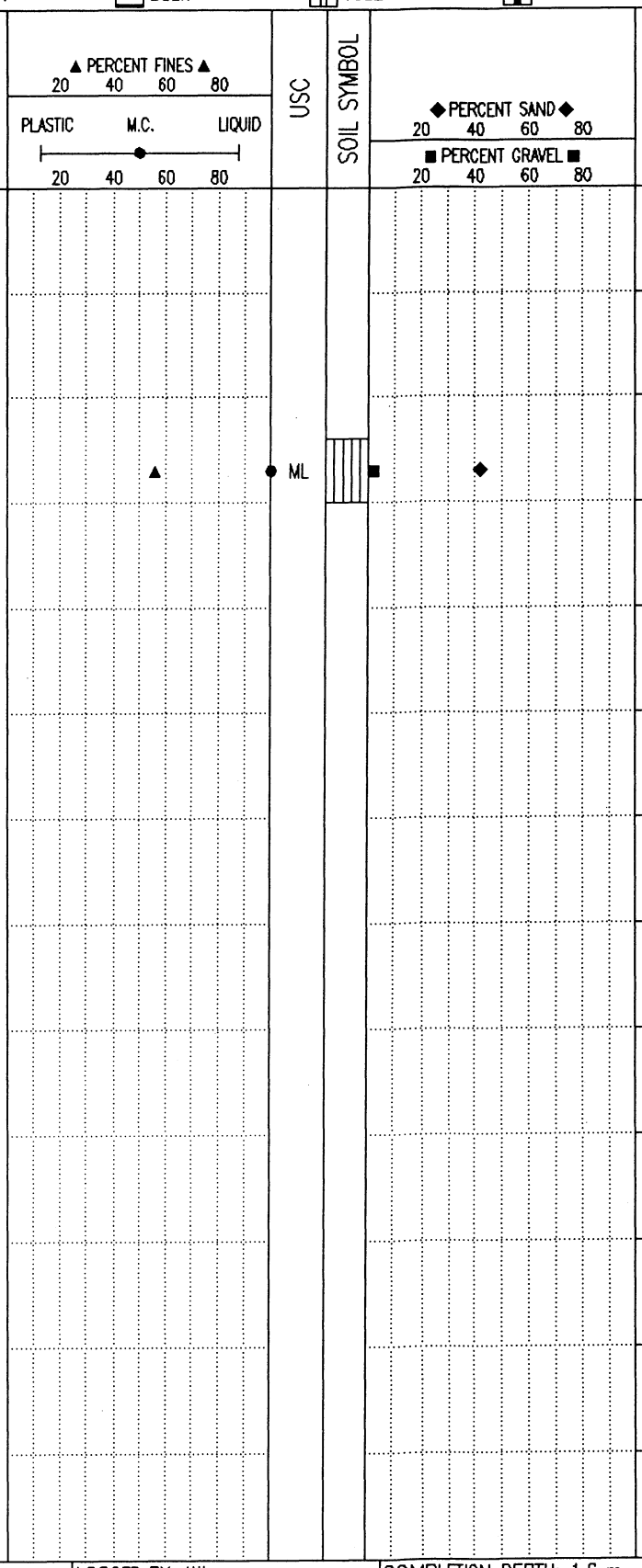
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 2.0 m
	REVIEWED BY:	COMPLETE: 92/08/19
	Fig. No:	Page 1 of 1

93/11/15 12:51PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-160
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1896+650 o/s 8m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	ORGANIC SANDY SILT (OL) -frozen (Vx) with visible ice				
1.0		AUGER	369	ML	
	END HOLE at 1.6m -refusal -small spruce and willow cover				
2.0					
3.0					
4.0					
5.0					
6.0					



Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 1.6 m
	REVIEWED BY:	COMPLETE: 92/08/19
	Fig. No:	Page 1 of 1

93/11/15 12:50PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-159
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1896+750 o/s 7m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	ICE WITH SOIL				
1.0		AUGER	367	ML	
	SILTY SAND (SM) -light brown -frozen (Nf)				
2.0					
3.0		AUGER	368	SM	
	END HOLE at 3.6m -refusal -willow cover				
4.0					
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 3.6 m
	REVIEWED BY:	COMPLETE: 92/08/19
	Fig. No:	Page 1 of 1

93/11/15 12:48PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-158
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1896+850 o/s 10m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⧄ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
	SILTY SAND (SM) -light brown -frozen (Nf) -slow drilling							
1.0		⊠	364		SM			1.0
2.0								2.0
3.0		⊠	365		SM			3.0
4.0		⊠	366		SM			4.0
	END HOLE at 4.5m -water on surface -willow cover							
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/19
	Fig. No:	Page 1 of 1

93/11/15 12:47PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-157
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1896+950	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES (20 40 60 80) / PLASTIC M.C. LIQUID (20 40 60 80)	USC	SOIL SYMBOL	PERCENT SAND / PERCENT GRAVEL (20 40 60 80)	DEPTH (m)
0.0	ROAD FILL AND ORGANIC MATERIAL							0.0
	SILTY SAND WITH GRAVEL (SM) -light brown -moist							
1.0		AUGER	361		SM			1.0
	-frozen (Nf) below 1.8m							
2.0								2.0
		AUGER	362		SM			
3.0								3.0
	SILTY GRAVEL WITH SAND (GM) -gray -frozen (Nf)							
4.0		AUGER	363		GM			4.0
	END HOLE at 4.5m -in ditch							
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/19
	Fig. No:	Page 1 of 1

93/11/15 12:45PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-156
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1897+050	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES (20 40 60 80) / PLASTIC M.C. LIQUID (20 40 60 80)	USC	SOIL SYMBOL	PERCENT SAND / PERCENT GRAVEL (20 40 60 80)	DEPTH (m)
0.0	ORGANIC MATERIAL –water at 0.3m							0.0
1.0	SILTY SAND WITH GRAVEL (SM) –gray –frozen (Vx) with visible ice	AUGER	358		SM			1.0
2.0	SILTY GRAVEL WITH SAND (GM) –gray –frozen (Nf)	AUGER	359		GM			2.0
3.0								3.0
4.0	SILTY SAND WITH GRAVEL (SM) –gray –frozen (Nf)	AUGER	360		SM			4.0
5.0	END HOLE at 4.5m –willow and spruce cover							5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/18
	Fig. No:	Page 1 of 1

93/11/15 12:43PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-155
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1897+150	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES (20 40 60 80) / PLASTIC M.C. LIQUID (20 40 60 80)	USC	SOIL SYMBOL	PERCENT SAND / PERCENT GRAVEL (20 40 60 80)	DEPTH (m)
0.0	ORGANIC MATERIAL –water ar 0.5m							0.0
1.0	SILTY GRAVEL WITH SAND (GM) –light brown –damp	AUGER	355		GM			1.0
2.0								2.0
3.0		AUGER	356		GM			3.0
4.0		AUGER	357		GM			4.0
5.0	END HOLE at 4.5m –willow and poplar cover							5.0
6.0								6.0

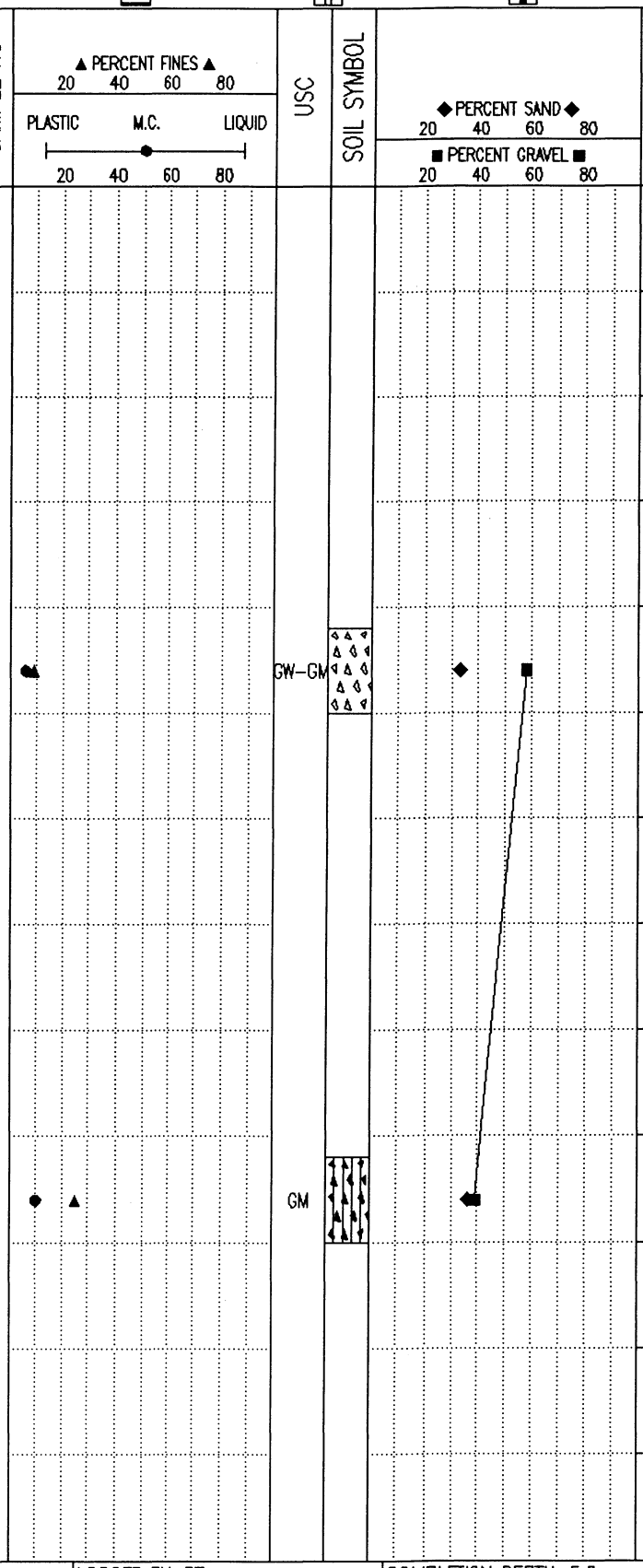
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/18
	Fig. No:	Page 1 of 1

93/11/15 12:42PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 257-16
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1897+150 o/s 10m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	ORGANIC CLAYEY SILT –black and brown –wet to saturated				
1.0	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) –dark brown –maximum 75mm material –rounded –frozen (Nb) below 1.5m –very difficult digging				
2.0			50	GW-GM	
3.0					
	SILTY GRAVEL WITH SAND (GM) –dark brown –frozen (Nb) –maximum 75mm material –rounded				
4.0			51	GM	
5.0	END HOLE at 5.0m				
6.0					



Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 5.0 m
	REVIEWED BY:	COMPLETE: 93/09/30
	Fig. No:	Page 1 of 1

93/10/27 11:23AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-154
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1897+250 o/s 5m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ROAD FILL AND ORGANIC MATERIAL -easy drilling				
1.0	SILTY SAND WITH GRAVEL (SM) -light brown -damp	AUGER	352	SM	
2.0					
3.0		AUGER	353	SM	
4.0	-frozen (Vx) with visible ice below 4.0m	AUGER	354	SM	
5.0	END HOLE at 4.5m -in ditch -water on surface				
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

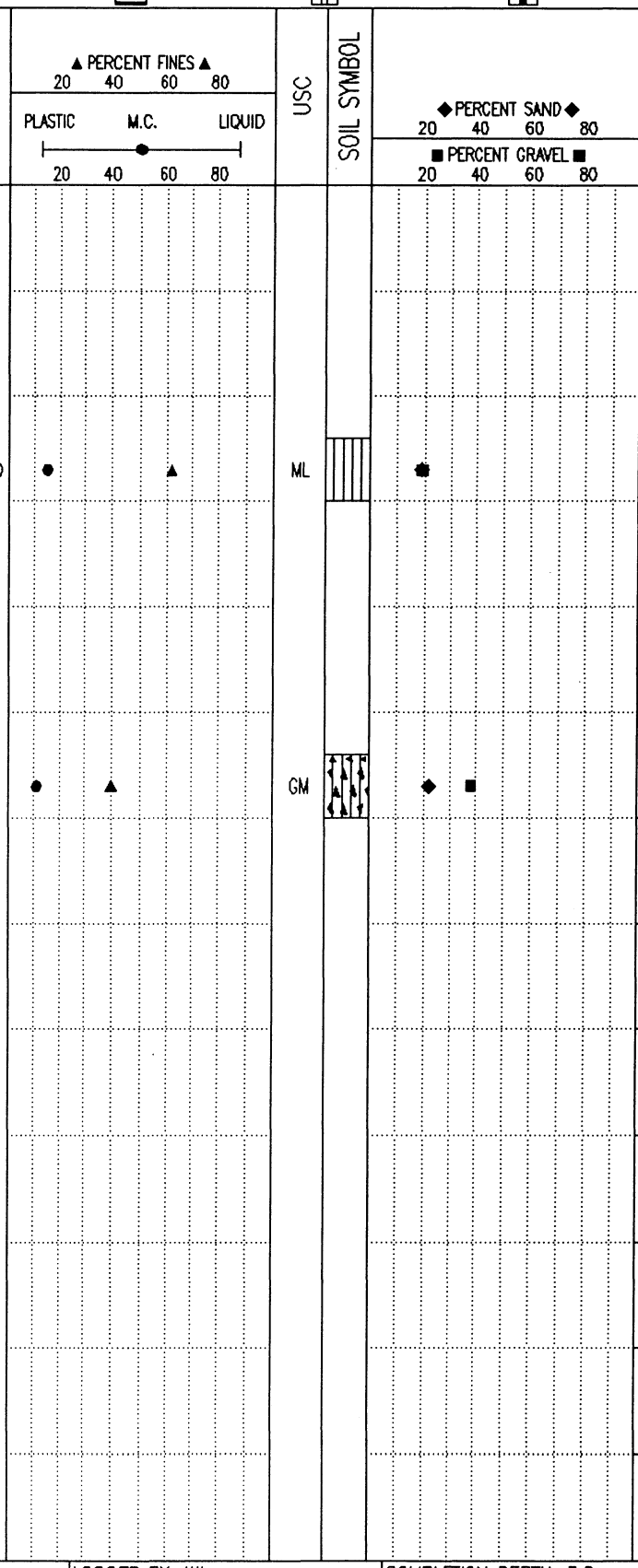
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/18
	Fig. No:	Page 1 of 1

93/11/15 12:40PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-153
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1897+350 o/s 6m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ROAD FILL AND ORGANIC MATERIAL -easy drilling				
1.0	SANDY SILT WITH GRAVEL (ML) -light brown -damp	AUGER	350	ML	
2.0	SILTY GRAVEL WITH SAND (GM) -light brown -damp	AUGER	351	GM	
3.0					
4.0	END HOLE at 3.9m -refusal -in ditch -water on surface				
5.0					
6.0					



Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 3.9 m
	REVIEWED BY:	COMPLETE: 92/08/18
	Fig. No:	Page 1 of 1

93/11/15 12:39PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-152
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1897+450 o/s 6m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ROAD FILL AND ORGANIC MATERIAL				
1.0	POORLY GRADED GRAVEL WITH SILT (GP-GM) -brown -wet	AUGER	349	GP-GM	
	SILTY GRAVEL -light brown -damp				
2.0					
3.0					
4.0					
	END HOLE at 4.5m -in ditch -water on surface				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

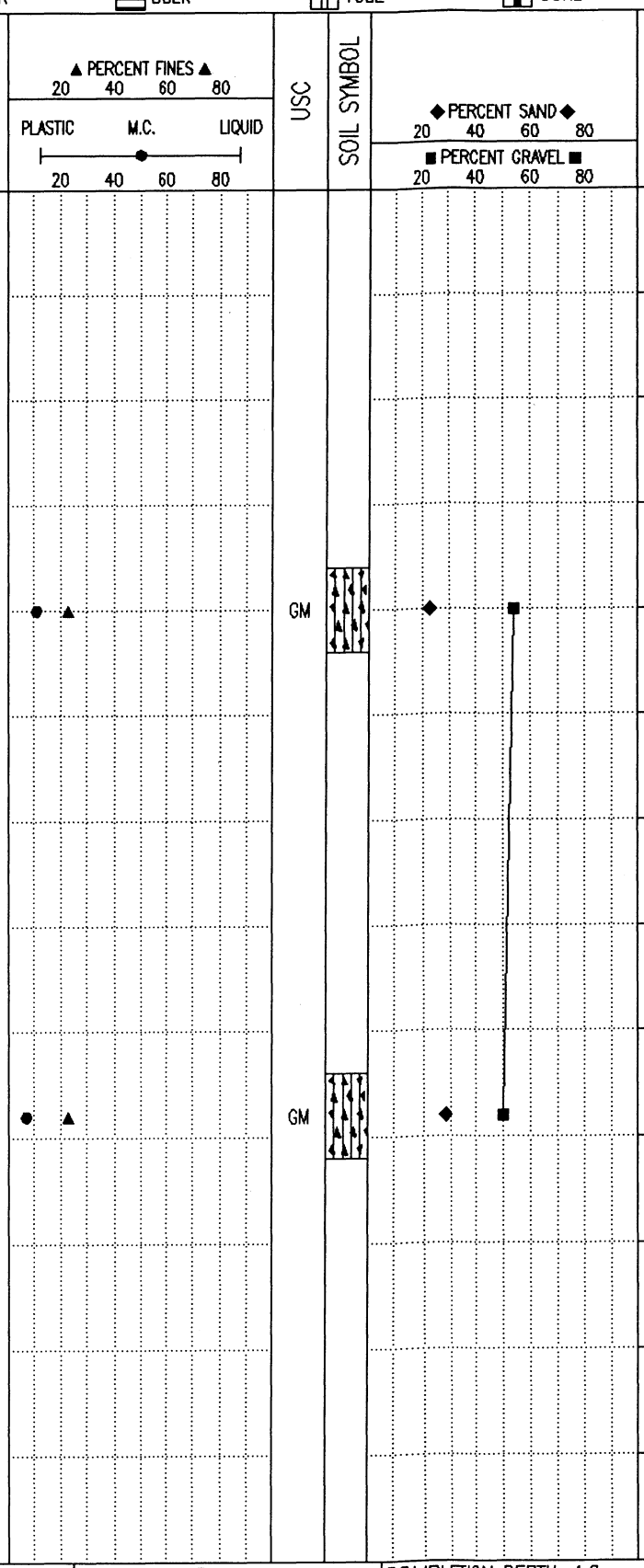
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/18
	Fig. No:	Page 1 of 1

93/11/15 12:37PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 257-17
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1897+450 o/s 30m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	ORGANIC SILT -dark brown -wet				
1.0	SILTY GRAVEL WITH SAND (GM) -brown -frozen -maximum 250mm material -estimate 1% +100mm -hard digging				
2.0			52	GM	
3.0	-visible ice (Vc) below 2.8m				
4.0			53	GM	
	END HOLE at 4.6m -on old pole line				
5.0					
6.0					



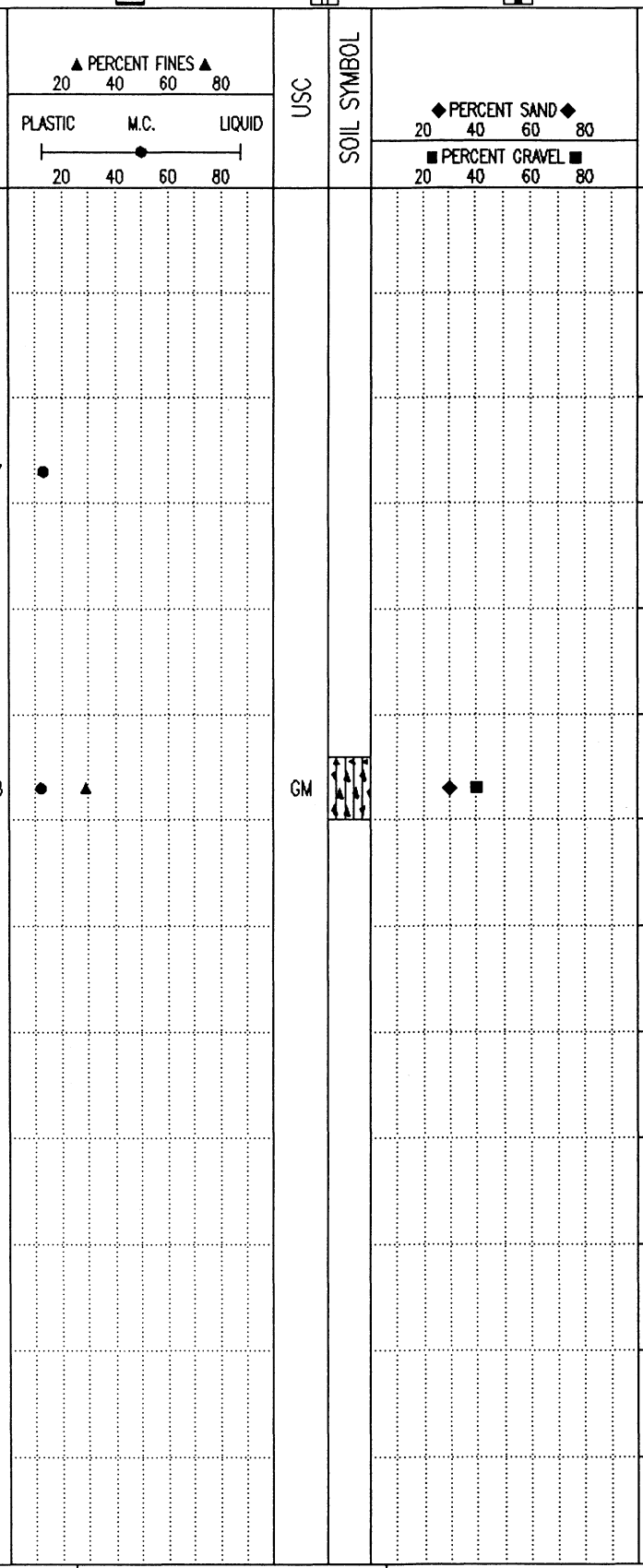
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 93/09/30
	Fig. No:	Page 1 of 1

93/10/27 03:34PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-151
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1897+550 o/s 8m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ROAD FILL AND ORGANIC MATERIAL -easy drilling				
1.0	SILTY GRAVEL WITH SAND (GM) -dark brown -moist -sample #347 spilled -gray below 1.8m -wet below 1.8m	AUGER	347		
2.0					
3.0	-hard drilling below 3.0m	AUGER	348	GM	
4.0	END HOLE at 3.9m -refusal -in ditch				
5.0					
6.0					



Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 3.9 m
	REVIEWED BY:	COMPLETE: 92/08/18
	Fig. No:	Page 1 of 1

93/11/15 12:36PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-150
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1897+675 o/s 8m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES (20 40 60 80) / PLASTIC M.C. LIQUID (20 40 60 80)	USC	SOIL SYMBOL	PERCENT SAND / PERCENT GRAVEL (20 40 60 80)	DEPTH (m)
0.0	ROAD FILL AND ORGANIC MATERIAL							0.0
1.0	SILTY SAND WITH GRAVEL (SM) -dark brown -moist	AUGER	345		SM			1.0
2.0 ▼	-water at 2.0m -light brown below 2.1m -wet below 2.1m							2.0 ▼
		AUGER	346		SM			
3.0								3.0
4.0	-unable to retrieve sample due to water							4.0
	END HOLE at 4.5m -in ditch							
5.0								5.0
6.0								6.0

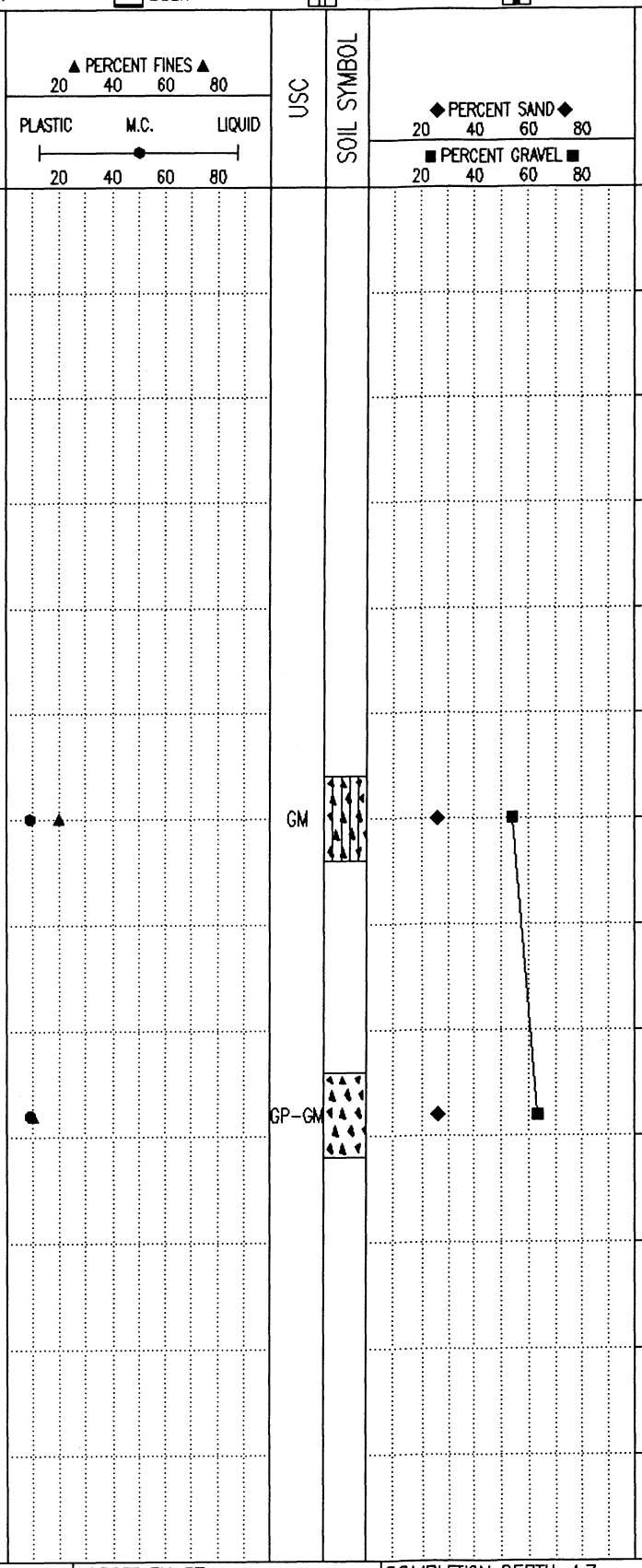
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/18
	Fig. No:	Page 1 of 1

93/11/15 12:34PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 257-18
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1897+750 o/s 20m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	ORGANIC SILT -some gravel -black				
	SILTY GRAVEL WITH SAND (GM) -brown -maximum 350mm material -estimate 10% +100mm				
1.0					
2.0	-frozen (Nb) below 2.3m				
3.0			54	GM	
	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -frozen (Nb) -maximum 350mm material -estimate 10% +100mm				
4.0			55	GP-GM	
	END HOLE at 4.7m				
5.0					
6.0					



Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.7 m
	REVIEWED BY:	COMPLETE: 93/09/30
	Fig. No:	Page 1 of 1

93/10/27 11:27AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-149
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1897+800 o/s 8m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ☐ S.P.T. ☒ AUGER ▤ BULK ▥ TUBE ▥ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ROAD FILL AND ORGANIC MATERIAL -easy drilling				
1.0	SILTY GRAVEL WITH SAND (GM) -brown -damp	☒	342	GM	
2.0	SILTY SAND WITH GRAVEL (SM) -light brown -wet	☒	343	SM	
3.0	SILTY GRAVEL WITH SAND (GM) -light brown -frozen (Nf) -hard drilling	☒	344	GM	
4.0	END HOLE at 4.5m -in ditch				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/18
	Fig. No:	Page 1 of 1

93/11/15 12:33PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-148
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1897+900 o/s 6m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ROAD FILL AND ORGANIC MATERIAL -easy drilling			
	SILTY SAND WITH GRAVEL (SM) -light brown -damp			
1.0		AUGER	339	SM
2.0				
	SILTY GRAVEL WITH SAND (GM) -dark brown -wet	AUGER	340	GM
3.0				
	SILTY SAND WITH GRAVEL (SM) -gray -frozen(Nb)			
4.0		AUGER	341	SM
	END HOLE at 4.5m -in ditch -water on surface			
5.0				
6.0				

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/18
	Fig. No:	Page 1 of 1

93/11/15 12:31PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-147
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1898+000 o/s 5m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ROAD FILL AND ORGANIC MATERIAL			
1.0	SANDY SILT WITH GRAVEL (ML) -dark brown -moist -mostly organics	AUGER	336	ML
2.0	SILTY SAND WITH GRAVEL (SM) -gray -damp	AUGER	337	SM
3.0				
4.0	SILTY GRAVEL WITH SAND (GM) -gray -damp	AUGER	338	GM
5.0	END HOLE at 4.5m -in ditch			
6.0				

PERCENT FINES: 20 40 60 80

PLASTIC M.C. LIQUID: 20 40 60 80

PERCENT SAND: 20 40 60 80

PERCENT GRAVEL: 20 40 60 80

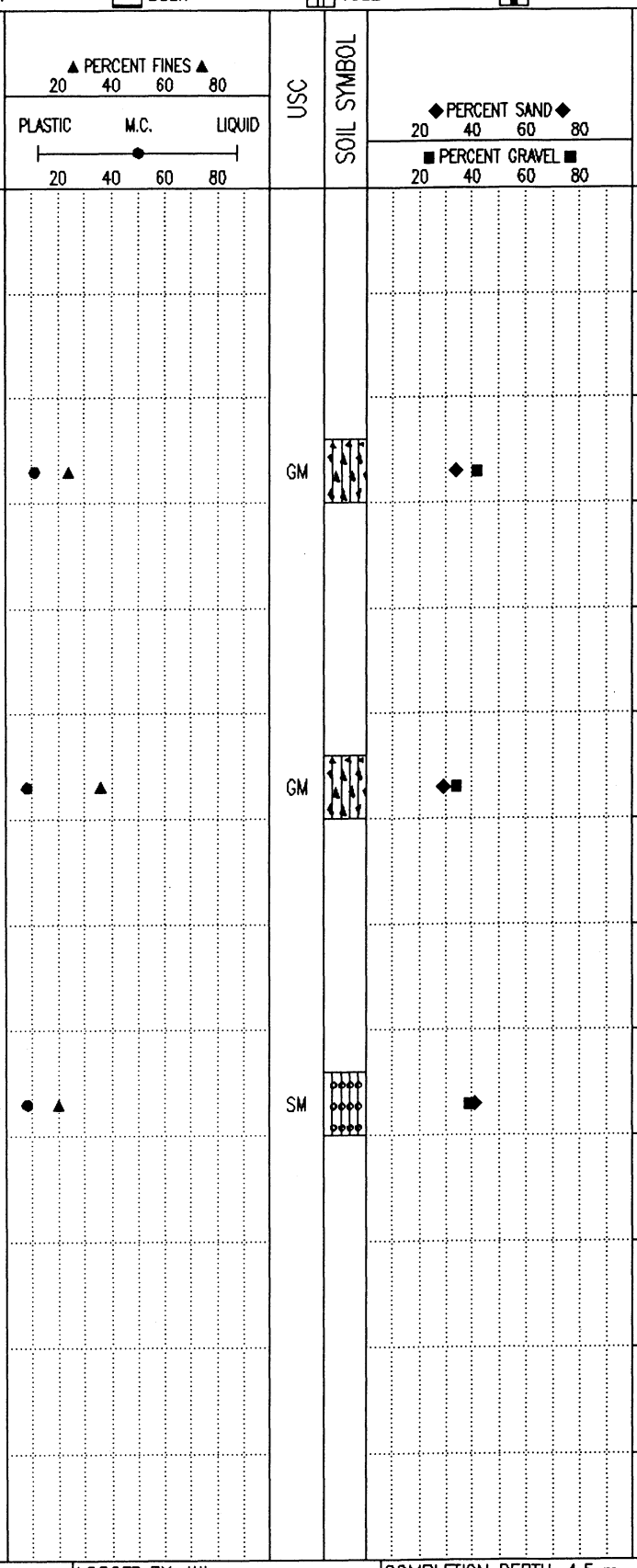
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/18
	Fig. No:	Page 1 of 1

93/11/15 12:29PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 198-146
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1898+100 o/s 6m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ROAD FILL AND ORGANIC MATERIAL				
	SILTY GRAVEL WITH SAND (GM) -dark brown -moist -trace of organics -easy drilling				
1.0		AUGER	333	GM	
2.0					
	-light brown below 2.4m -damp below 2.4m				
3.0		AUGER	334	GM	
4.0					
	SILTY SAND WITH GRAVEL (SM) -light brown -frozen (Nf)	AUGER	335	SM	
	END HOLE at 4.5m -in ditch				
5.0					
6.0					



Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/18
	Fig. No:	Page 1 of 1

93/11/15 12:28PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-145
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1898+200 o/s 10m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILTY GRAVEL WITH SAND (GM) -light brown -moist -easy drilling	AUGER	331	GM	
2.0	SILTY SAND WITH GRAVEL (SM) -gray -damp	AUGER	332	SM	
3.0	-water at 3.6m				
4.0	END HOLE at 4.5m -willow cover				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

DEPTH (m)

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/18
	Fig. No:	Page 1 of 1

93/11/15 12:26PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-144
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1898+300 o/s 20m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILTY SAND WITH GRAVEL (SM) -dark brown -moist -trace of organics -easy drilling	AUGER	328	SM	
	SANDY SILT WITH GRAVEL (ML) -dark brown -moist -trace of organics	AUGER	329	ML	
	-light brown below 3.3m -damp below 3.3m	AUGER	330	ML	
	END HOLE at 4.5m -willow and spruce cover				

Depth scale: 0.0, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/18
	Fig. No:	Page 1 of 1

93/11/15 12:25PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-143
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1898+400 o/s 20m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	DEPTH (m)
0.0	ORGANIC MATERIAL				0.0
	SILTY GRAVEL WITH SAND (GM) -brown -moist				
1.0		AUGER	325	GM	1.0
2.0	SILTY SAND WITH GRAVEL (SM) -brown -wet				2.0
3.0		AUGER	326	SM	3.0
	SILTY GRAVEL WITH SAND (GM) -brown -damp				
4.0		AUGER	327	GM	4.0
	END HOLE at 4.5m -willow and poplar cover				
5.0					5.0
6.0					6.0

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/13
	Fig. No:	Page 1 of 1

93/11/15 12:23PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-142
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1898+525 o/s 20m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
1.0	SILTY GRAVEL WITH SAND (GM) -brown -frozen (Vx) with visible ice -hard drilling -first refusal at 1.2m	AUGER	324	GM	
2.0	END HOLE at 1.8m -refusal -willow and spruce cover				
3.0					
4.0					
5.0					
6.0					

▲ PERCENT FINES ▲ (20 40 60 80)

PLASTIC — M.C. — LIQUID (20 40 60 80)

◆ PERCENT SAND ◆ (20 40 60 80)

■ PERCENT GRAVEL ■ (20 40 60 80)

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 1.8 m
	REVIEWED BY:	COMPLETE: 92/08/13
	Fig. No:	Page 1 of 1

93/11/15 12:21PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-141
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1898+625 o/s 20m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILTY GRAVEL WITH SAND (GM) -light brown -saturated -hard drilling	AUGER	321	GM	
2.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -frozen (Nf)	AUGER	322	GP-GM	
3.0	-light brown below 3.3m				
4.0	-sample #323 spilled	AUGER	323		
	END HOLE at 4.5m -spruce and willow cover				
5.0					
6.0					

Legend: ▲ PERCENT FINES ▲ (20, 40, 60, 80); PLASTIC — M.C. — LIQUID (20, 40, 60, 80); ◆ PERCENT SAND ◆ (20, 40, 60, 80); ■ PERCENT GRAVEL ■ (20, 40, 60, 80)

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/13
	Fig. No:	Page 1 of 1

93/11/15 12:20PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-140
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1898+725 o/s 7m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ROAD FILL AND ORGANIC MATERIAL							0.0
	SILTY GRAVEL WITH SAND (GM) -light brown -wet							
1.0		X	320	● ▲	GM		◆ ■	1.0
	-gray below 1.8m -saturated below 1.8m							
2.0								2.0
3.0								3.0
	END HOLE at 3.6m -refusal -water on surface							
4.0								4.0
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 3.6 m
	REVIEWED BY:	COMPLETE: 92/08/13
	Fig. No:	Page 1 of 1

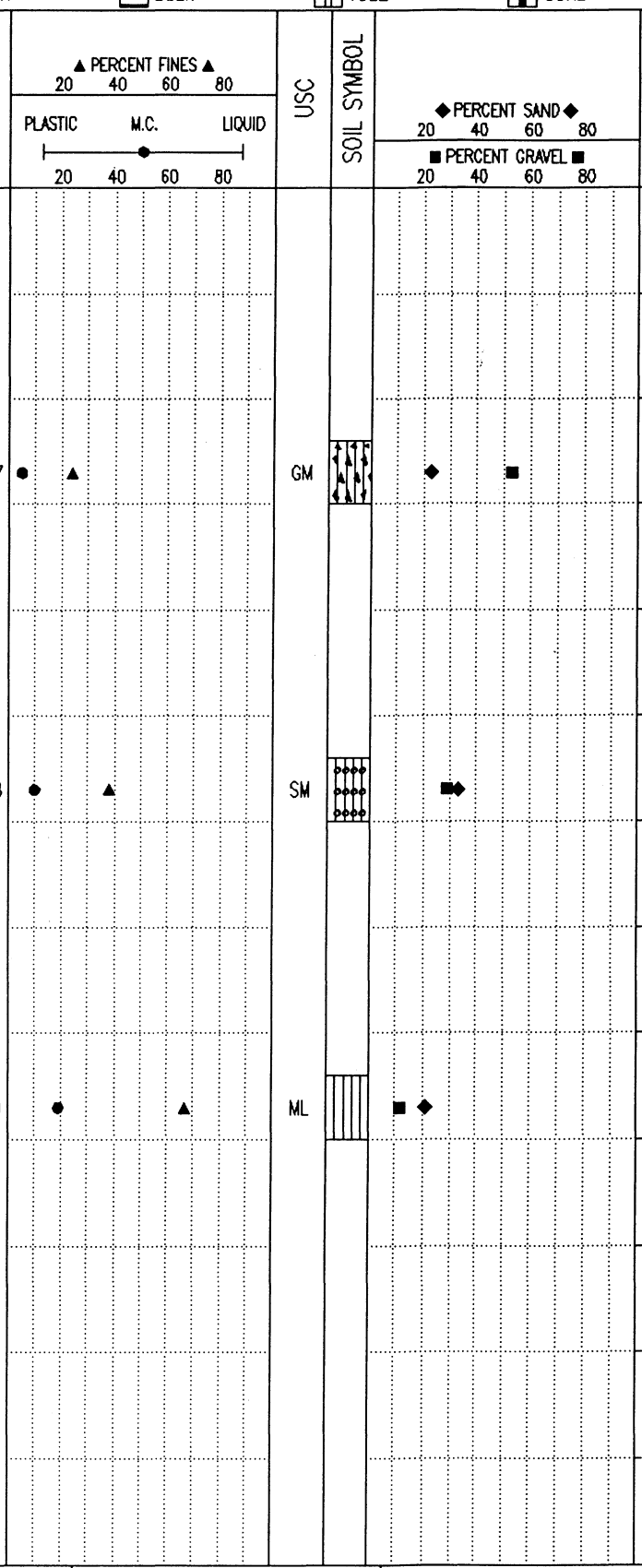
93/11/15 12:18PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-139
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1898+850 o/s 10m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ROAD FILL AND ORGANIC MATERIAL				
	SILTY GRAVEL WITH SAND (GM) -brown -dry -easy drilling	AUGER	317	GM	
2.0	SILTY SAND WITH GRAVEL (SM) -light brown -wet	AUGER	318	SM	
4.0	SANDY SILT (ML) -gray -wet	AUGER	319	ML	
	END HOLE at 4.5m -in ditch				

Depth scale: 0.0, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0



Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.2 m
	REVIEWED BY:	COMPLETE: 92/08/13
	Fig. No:	Page 1 of 1

93/11/15 12:17PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 257-19
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1898+900 o/s 20m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILTY GRAVEL WITH SAND (GM) –brown –saturated –maximum 200mm material –estimate 5% +100mm				
1.0					
	–frozen with visible ice (Vs) below 1.7m				
2.0			56	GM	
3.0	–more and larger ice lenses below 3.2m				
	END HOLE at 3.8m –backhoe sinking in saturated layer				
4.0					
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 3.8 m
	REVIEWED BY:	COMPLETE: 93/09/30
	Fig. No:	Page 1 of 1

93/10/27 03:35PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-138
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1899+000 o/s 10m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ROAD FILL AND ORGANIC MATERIAL			
1.0	SILTY SAND WITH GRAVEL (SM) -light brown -saturated	AUGER	314	SM
2.0	SILTY GRAVEL WITH SAND (GM) -light brown -damp			
3.0	-saturated below 3.3m	AUGER	315	GM
4.0		AUGER	316	GM
	END HOLE at 4.2m -refusal -in ditch -water on surface			
5.0				
6.0				

Plot: ▲ PERCENT FINES (20 40 60 80); PLASTIC — M.C. — LIQUID (20 40 60 80); ◆ PERCENT SAND (20 40 60 80); ■ PERCENT GRAVEL (20 40 60 80)

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.2 m
	REVIEWED BY:	COMPLETE: 92/08/13
	Fig. No:	Page 1 of 1

93/11/15 12:15PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-137
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1899+100 o/s 10m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ROAD FILL AND ORGANIC MATERIAL				
	SILTY GRAVEL WITH SAND (GM) -light brown -dry				
1.0		AUGER	311	GM	
2.0	SILTY SAND WITH GRAVEL (SM) -light brown -damp				
3.0		AUGER	312	SM	
4.0	-saturated below 4.0m				
		AUGER	313	SM	
	END HOLE at 4.5m -in ditch				
5.0					
6.0					

Plot columns: ▲ PERCENT FINES ▲ (20, 40, 60, 80); PLASTIC — M.C. — LIQUID (20, 40, 60, 80); ◆ PERCENT SAND ◆ (20, 40, 60, 80); ■ PERCENT GRAVEL ■ (20, 40, 60, 80)

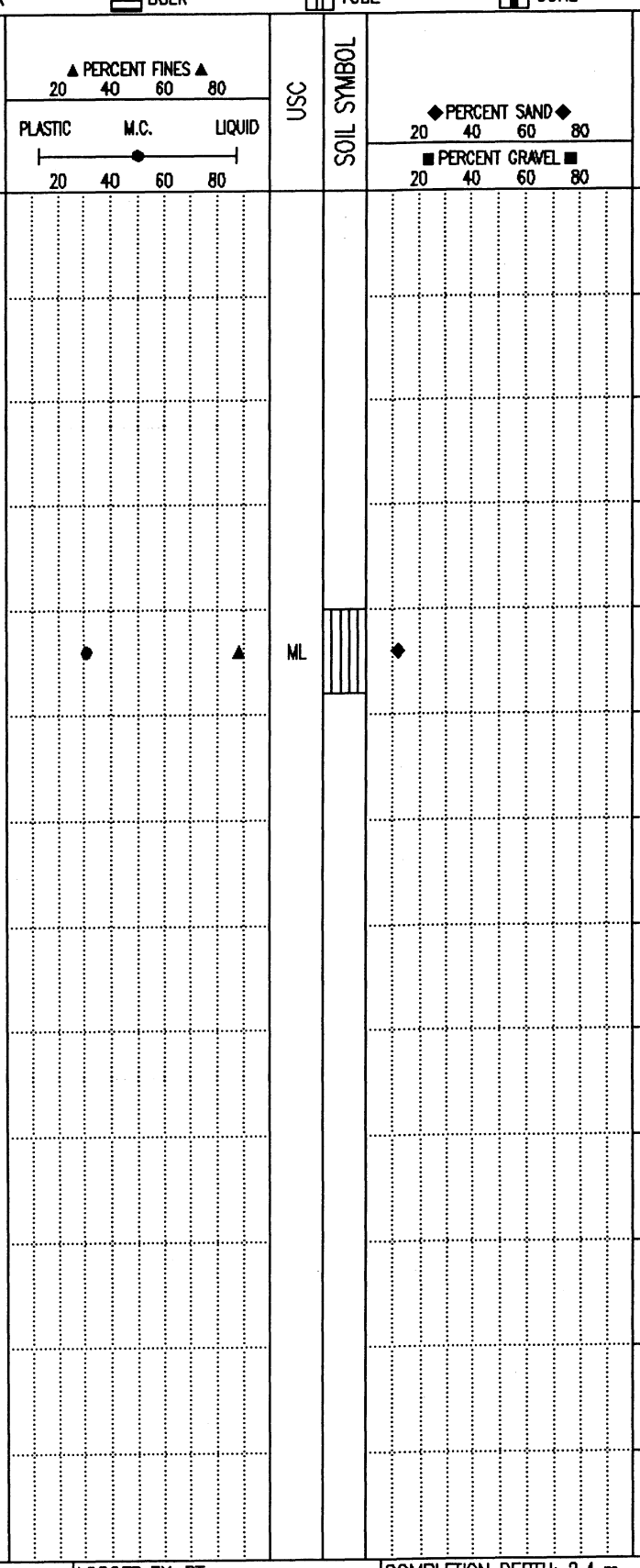
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/13
	Fig. No:	Page 1 of 1

93/11/15 12:14PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 257-20
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1899+100 o/s 46m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	ICE AND SOIL				
	GRAVEL, ICE AND SOIL				
1.0					
	SILT (ML) -brown -frozen with visible ice (Vx)		57	ML	
2.0					
	END HOLE at 2.4m -refusal -edge of clearing				
3.0					
4.0					
5.0					
6.0					



Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 2.4 m
	REVIEWED BY:	COMPLETE: 93/09/30
	Fig. No:	Page 1 of 1

94/03/25 04:16PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-136
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1899+200 o/s 10m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ROAD FILL AND ORGANIC MATERIAL				
	SILTY SAND WITH GRAVEL (SM) -light brown -moist -easy drilling				
1.0		AUGER	308	SM	
2.0	-damp below 2.4m				
		AUGER	309	SM	
3.0	SILTY GRAVEL WITH SAND (GM) -light brown -wet				
4.0		AUGER	310	GM	
	END HOLE at 4.5m -in ditch				
5.0					
6.0					

Plot scales: ▲ PERCENT FINES ▲ 20 40 60 80; PLASTIC M.C. LIQUID 20 40 60 80; ◆ PERCENT SAND ◆ 20 40 60 80; ■ PERCENT GRAVEL ■ 20 40 60 80; DEPTH (m) 0.0 1.0 2.0 3.0 4.0 5.0 6.0

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/13
	Fig. No:	Page 1 of 1

93/11/15 12:12PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-135
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1899+300 o/s 7m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES (20 40 60 80) / PLASTIC M.C. LIQUID (20 40 60 80)	USC	SOIL SYMBOL	PERCENT SAND (20 40 60 80) / PERCENT GRAVEL (20 40 60 80)	DEPTH (m)
0.0	ROAD FILL AND ORGANIC MATERIAL							0.0
	SILTY GRAVEL WITH SAND (GM) -light brown -wet							
1.0								1.0
		AUGER	306	● ▲	GM		◆■	
2.0								2.0
	-moist below 2.4m							
		AUGER	307	● ▲	GM		◆ ■	
3.0	END HOLE at 3.0m -refusal -in ditch							3.0
4.0								4.0
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 3.0 m
	REVIEWED BY:	COMPLETE: 92/08/13
	Fig. No:	Page 1 of 1

93/11/15 12:11PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 257-21
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1899+300 o/s 35m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
	ORGANIC SILT -black -wet							
	SILT -brown -saturated -some gravel							1.0
	ICE AND SILT -white and brown -frozen							2.0
	END HOLE at 2.4m -backhoe sinking -on edge of clearing							3.0
4.0								4.0
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 2.4 m
	REVIEWED BY:	COMPLETE: 93/10/01
	Fig. No:	Page 1 of 1

94/03/25 04:18PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-134
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1899+400	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ROAD FILL AND ORGANIC MATERIAL				
	GRAVELLY SILT WITH SAND (ML) -light brown -moist -easy drilling				
1.0		AUGER	303	ML	
	SILTY GRAVEL WITH SAND (GM) -light brown -wet				
2.0					
		AUGER	304	GM	
3.0					
4.0	-saturated below 4.0m				
		AUGER	305	GM	
	END HOLE at 4.5m -in ditch -water on surface				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/13
	Fig. No:	Page 1 of 1

93/11/15 12:09PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-133
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1899+500	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ROAD FILL AND ORGANIC MATERIAL				
	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -wet -hard drilling				
1.0		AUGER	301	GP-GM	
2.0					
	-saturated below 2.6m	AUGER	302	GP-GM	
3.0	SILTY SAND -gray -saturated -very easy drilling				
4.0					
	END HOLE at 4.5m -in ditch				
5.0					
6.0					

Plot columns: ▲ PERCENT FINES ▲ (20, 40, 60, 80); PLASTIC — M.C. — LIQUID (20, 40, 60, 80); ◆ PERCENT SAND ◆ (20, 40, 60, 80); ■ PERCENT GRAVEL ■ (20, 40, 60, 80)

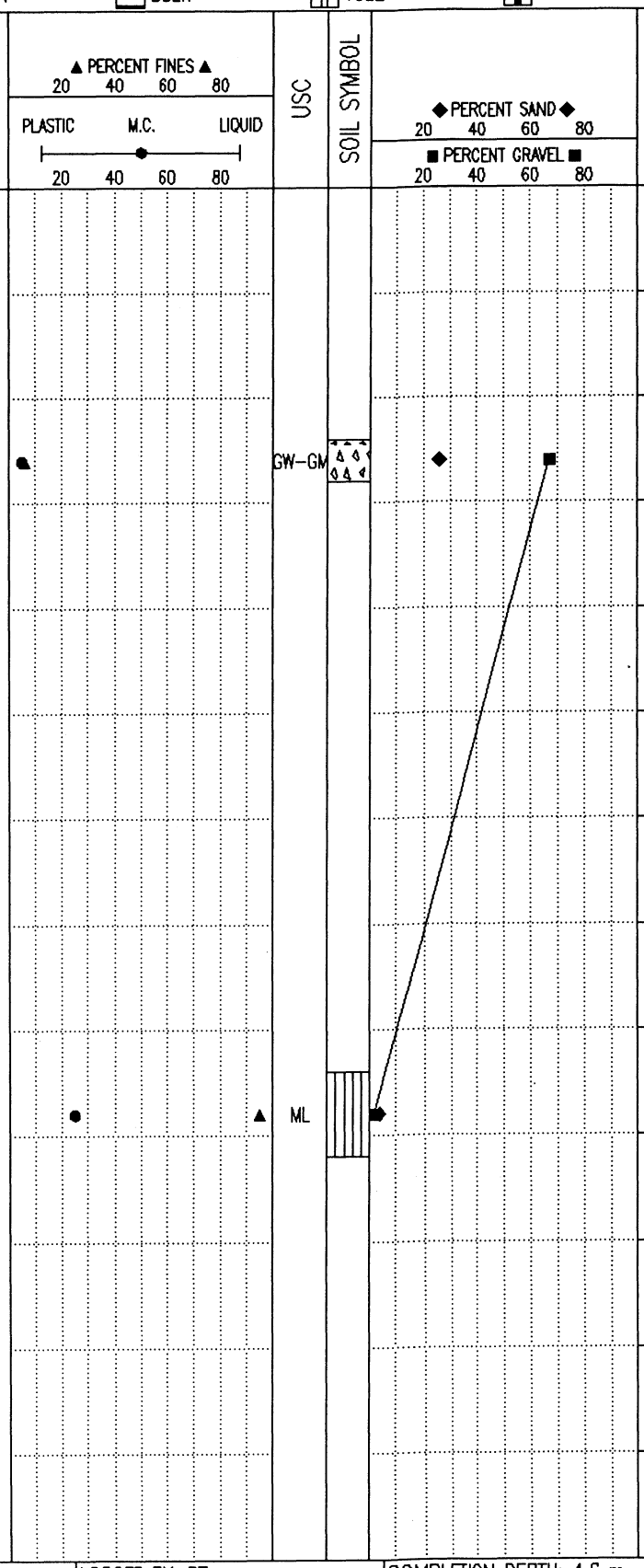
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/13
	Fig. No:	Page 1 of 1

93/11/15 12:07PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 257-22
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1899+500 o/s 25m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -maximum 100mm material -sub-rounded to rounded -frozen with visible ice (Vx) below 0.8m		58	GW-GM	
4.0	SILT (ML) -brown -frozen with visible ice (Vx)		59	ML	
	END HOLE at 4.6m				



Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 93/10/01
	Fig. No:	Page 1 of 1

93/10/28 01:52PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-132
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1899+600	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
1.0	SANDY SILT (ML) -light brown -damp -organic	AUGER	299	ML	
	-water at 1.8m				
2.0	SILTY GRAVEL (GM) -gray -wet				
3.0					
4.0		AUGER	300	GM	
	END HOLE at 4.5m -willow cover				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/12
	Fig. No:	Page 1 of 1

93/11/15 12:06PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-131
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1899+700	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
1.0	SILT WITH SAND AND GRAVEL -dark brown -frozen (Nf) -organics	AUGER	296		
2.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -dark brown -frozen (Nf)	AUGER	297	GP-GM	
3.0	SILTY GRAVEL WITH SAND (GM) -gray -frozen (Nf)	AUGER	298	GM	
4.0	END HOLE at 4.5m -willow cover				
5.0					
6.0					

Chart: ▲ PERCENT FINES ▲ (20, 40, 60, 80); PLASTIC — M.C. — LIQUID (20, 40, 60, 80); ◆ PERCENT SAND ◆ (20, 40, 60, 80); ■ PERCENT GRAVEL ■ (20, 40, 60, 80)

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/12
	Fig. No:	Page 1 of 1

93/11/15 12:04PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-130
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1899+800	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
1.0	SANDY SILT (ML) -dark brown -frozen (Vx) with visible ice -organic	AUGER	295	ML	
2.0	END HOLE at 2.1m -refusal -spruce and willow cover				
3.0					
4.0					
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

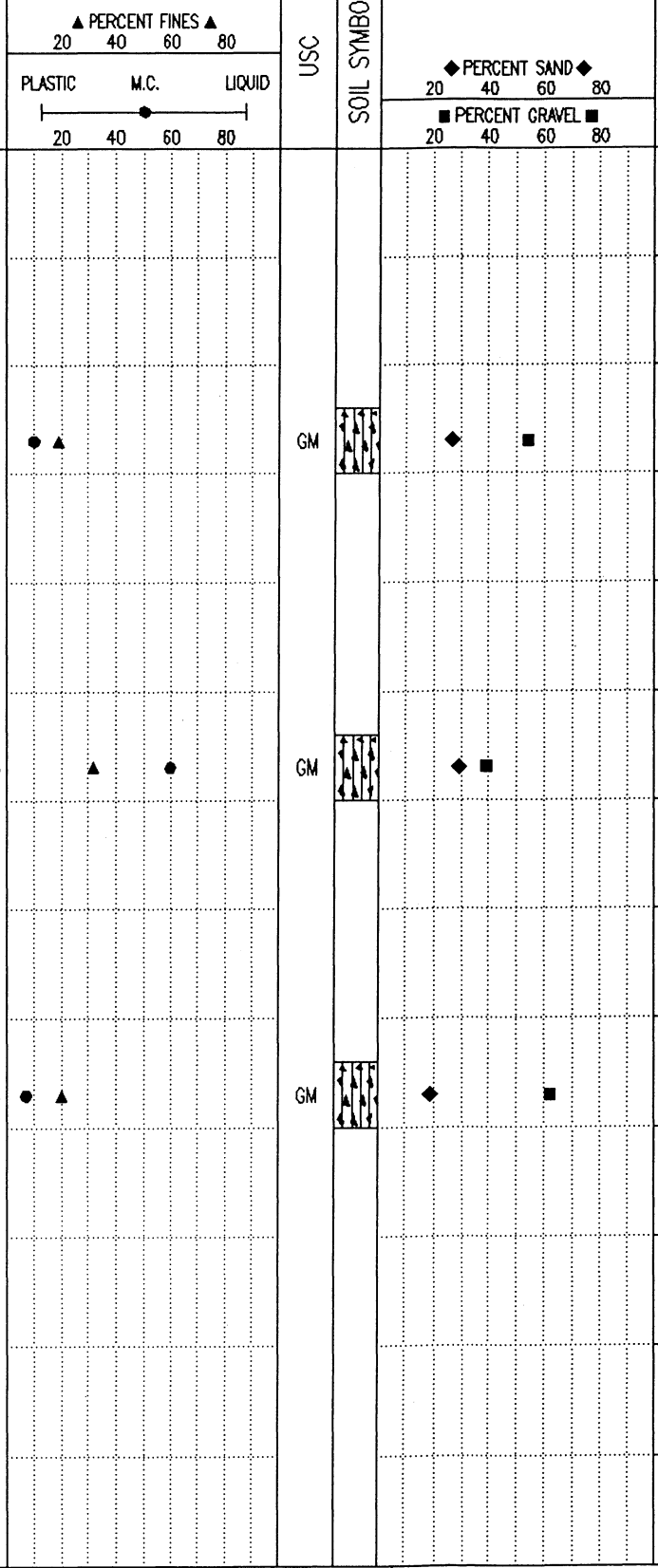
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 2.1 m
	REVIEWED BY:	COMPLETE: 92/08/12
	Fig. No:	Page 1 of 1

93/11/15 12:03PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-129
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1899+900	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
1.0	SILTY GRAVEL WITH SAND (GM) -brown -frozen (Vx) with visible ice	AUGER	292	GM	
2.0	-dark brown below 2.4m -frozen (Nb) below 2.4m -organic below 2.4m	AUGER	293	GM	
3.0	-brown below 3.6m -frozen (Nf) below 3.6m -no organics below 3.6m				
4.0		AUGER	294	GM	
	END HOLE at 4.5m -spruce and willow cover				
5.0					
6.0					



Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/12
	Fig. No:	Page 1 of 1

93/11/15 12:01PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-128
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1900+000	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
1.0	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -moist -hard drilling	AUGER	289	GW-GM	
2.0					
3.0		AUGER	290	GW-GM	
4.0		AUGER	291	GW-GM	
	END HOLE at 4.5m -willow, spruce and birch cover				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: AW REVIEWED BY: Fig. No:	COMPLETION DEPTH: 4.5 m COMPLETE: 92/08/12 Page 1 of 1

93/11/15 12:00PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-127
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1900+100	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ (20 40 60 80) / PLASTIC M.C. LIQUID (20 40 60 80)	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ (20 40 60 80) / ■ PERCENT GRAVEL ■ (20 40 60 80)	DEPTH (m)
0.0	ROAD FILL AND ORGANIC MATERIAL							0.0
	WELL TO POORLY GRADED GRAVEL WITH SILT AND SAND (GW-GM TO GP-GM TO GW-GM) -brown -moist							
1.0								1.0
		X	286	●▲	GW-GM		◆ ■	
2.0								2.0
		X	287	●▲	GP-GM		◆ ■	
3.0								3.0
4.0								4.0
		X	288	●▲	GW-GM		◆ ■	
	END HOLE at 4.5m -in ditch							
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/12
	Fig. No:	Page 1 of 1

93/11/15 11:58AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 257-23
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1900+125 o/s 35m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	POORLY TO WELL-GRADED GRAVEL WITH SAND (GP TO GW) -brown -frozen with visible ice (Vx) -maximum 75mm material		60	GP	
1.0					
2.0					
3.0					
4.0			61	GW	
	END HOLE at 4.5m				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

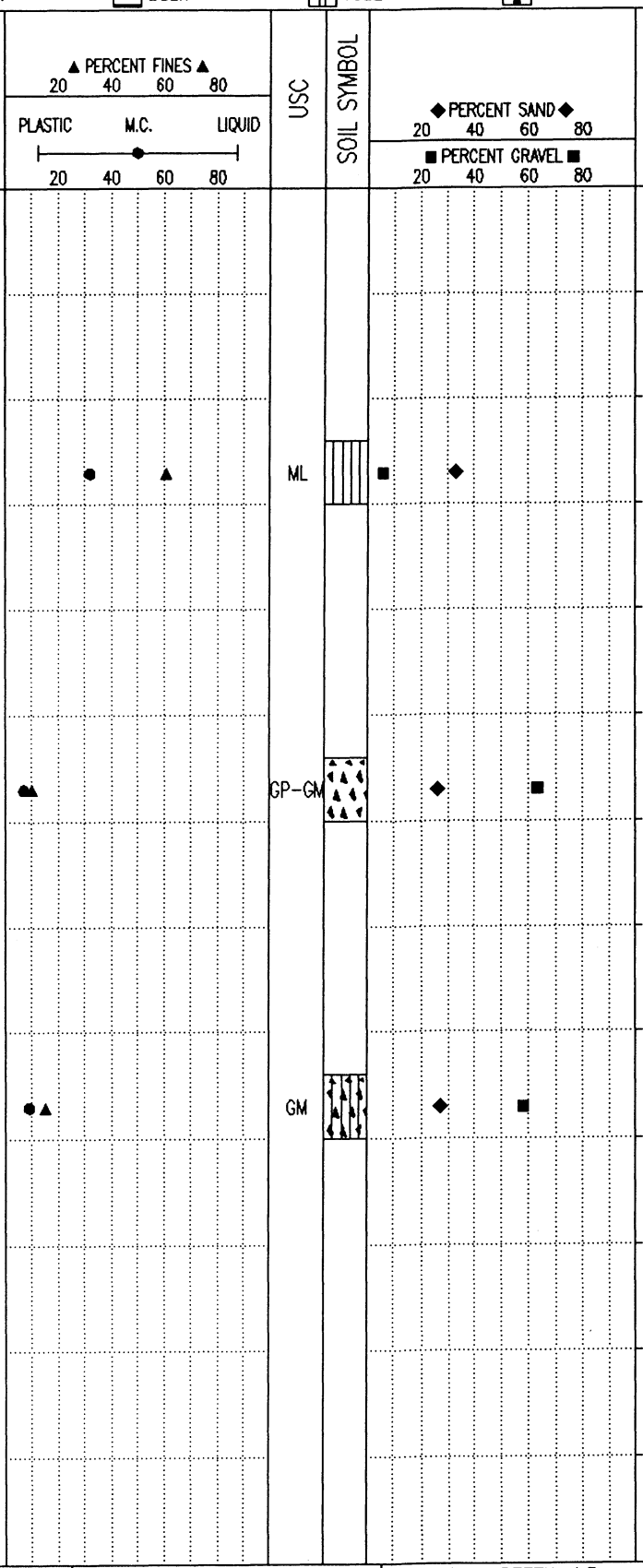
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 93/10/01
	Fig. No:	Page 1 of 1

93/10/28 01:54PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-126
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1900+200	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ROAD FILL AND ORGANIC MATERIAL				
1.0	SANDY SILT (ML) -brown -damp	AUGER	283	ML	
2.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -damp	AUGER	284	GP-GM	
3.0					
4.0	SILTY GRAVEL WITH SAND (GM) -brown -damp	AUGER	285	GM	
5.0	END HOLE at 4.5m -in ditch				
6.0					



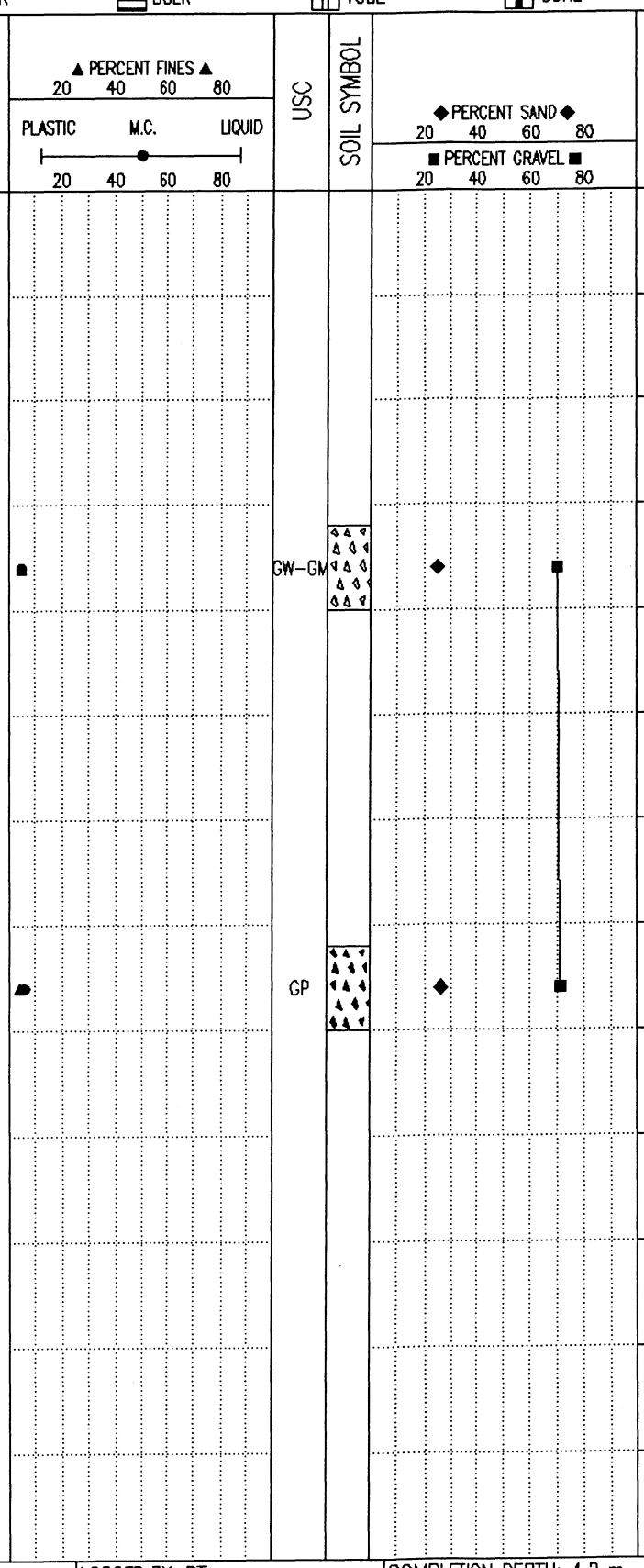
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/12
	Fig. No:	Page 1 of 1

93/11/15 11:57AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 257-24
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1900+250 o/s 15m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -wet -maximum 200mm material -estimate 20% +100mm				
1.0					
			62	GW-GM	
2.0					
	-frozen below 2.4m				
	POORLY GRADED GRAVEL WITH SAND (GP) -brown -frozen with visible ice (Vx) -maximum 200mm material -estimate 20% +100mm				
3.0					
			63	GP	
4.0					
	END HOLE at 4.2m				
5.0					
6.0					



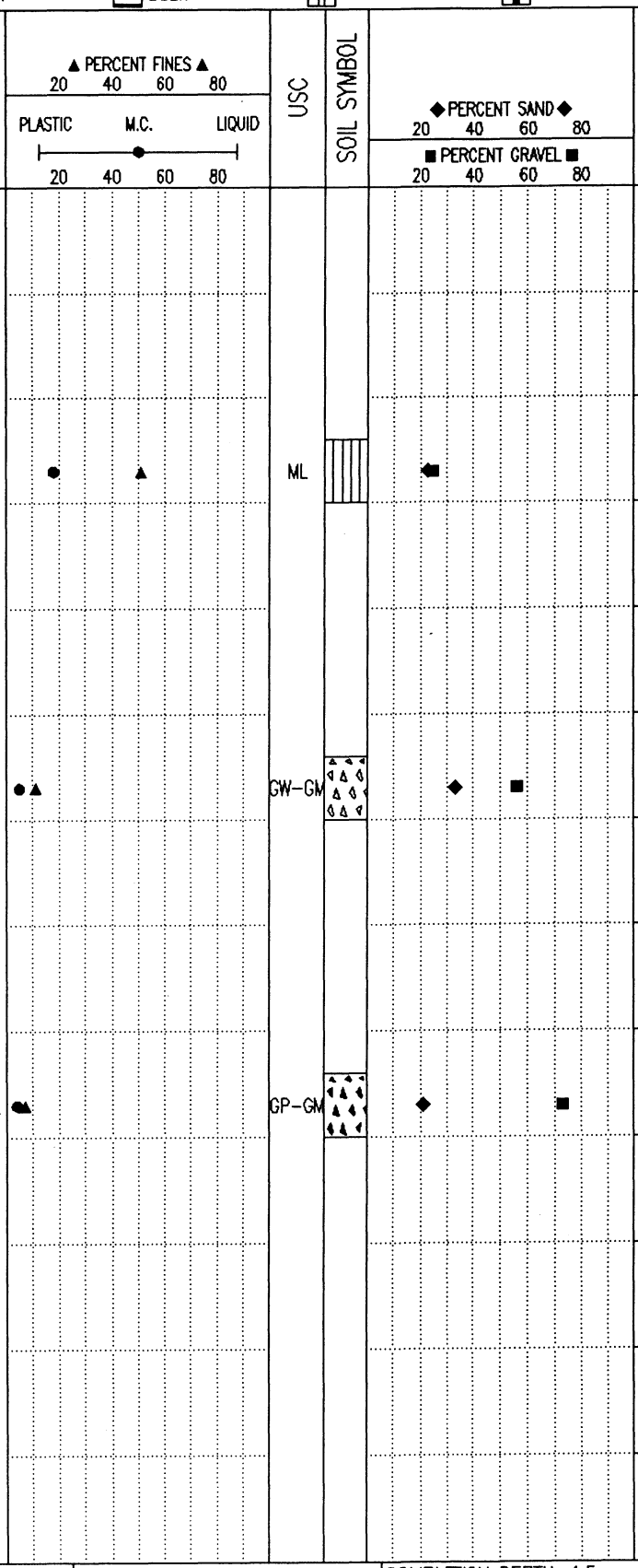
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.2 m
	REVIEWED BY:	COMPLETE: 93/10/01
	Fig. No:	Page 1 of 1

93/10/28 01:56PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-125
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1900+300	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	GRAVELLY SILT WITH SAND (ML) -brown -damp	AUGER	280	ML	
2.0	WELL TO POORLY GRADED GRAVEL WITH SILT AND SAND (GW-GM TO GP-GM) -brown -moist	AUGER	281	GW-GM	
		AUGER	282	GP-GM	
	END HOLE at 4.5m -poplar and willow cover				



Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/12
	Fig. No:	Page 1 of 1

93/11/15 11:56AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-124
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1900+400	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ROAD FILL AND ORGANIC MATERIAL				
	POORLY TO WELL-GRADED GRAVEL WITH SILT AND SAND (GP-GM TO GW-GM) -brown -moist				
1.0		AUGER	277	GP-GM	
2.0					
3.0		AUGER	278	GW-GM	
	SILTY SAND (SM) -brown -moist -easy drilling				
4.0		AUGER	279	SM	
	END HOLE at 4.5m -in ditch				
5.0					
6.0					

▲ PERCENT FINES ▲ (20 40 60 80); PLASTIC — M.C. — LIQUID (20 40 60 80); ◆ PERCENT SAND ◆ (20 40 60 80); ■ PERCENT GRAVEL ■ (20 40 60 80)

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/12
	Fig. No:	Page 1 of 1

93/11/15 11:54AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-123
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1900+500	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES (20 40 60 80) / PLASTIC M.C. LIQUID (20 40 60 80)	USC	SOIL SYMBOL	PERCENT SAND (20 40 60 80) / PERCENT GRAVEL (20 40 60 80)	DEPTH (m)
0.0	ROAD FILL AND ORGANIC MATERIAL							0.0
	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -moist							
1.0								1.0
		X	274		GW-GM			
2.0	-first refusal at 2.0m -damp below 2.1m							2.0
		X	275		GW-GM			
3.0								3.0
	SILTY GRAVEL WITH SAND (GM) -brown -damp							
4.0								4.0
		X	276		GM			
	END HOLE at 4.5m -in ditch							
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/12
	Fig. No:	Page 1 of 1

93/11/15 11:52AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-122
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1900+600 o/s 3m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⧄ S.P.T. ☒ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ROAD FILL AND ORGANIC MATERIAL				
	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -moist				
1.0		☒	271	GW-GM	
2.0					
3.0		☒	272	GW-GM	
4.0		☒	273	GW-GM	
	END HOLE at 4.5m -in ditch				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/12
	Fig. No:	Page 1 of 1

93/11/15 11:50AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 197-121
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1900+700 o/s 4m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ☒ S.P.T. ☒ AUGER ▤ BULK ▥ TUBE ▥ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ROAD FILL AND ORGANIC MATERIAL				
	SILTY GRAVEL WITH SAND (GM) -brown -moist				
1.0		☒	268	GM	
2.0	WELL-GRADED GRAVEL WITH SAND (GW-GM) -brown -moist				
3.0		☒	269	GW-GM	
	POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM) -brown -moist				
4.0		☒	270	SP-SM	
	END HOLE at 4.5m -in ditch				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

DEPTH (m)

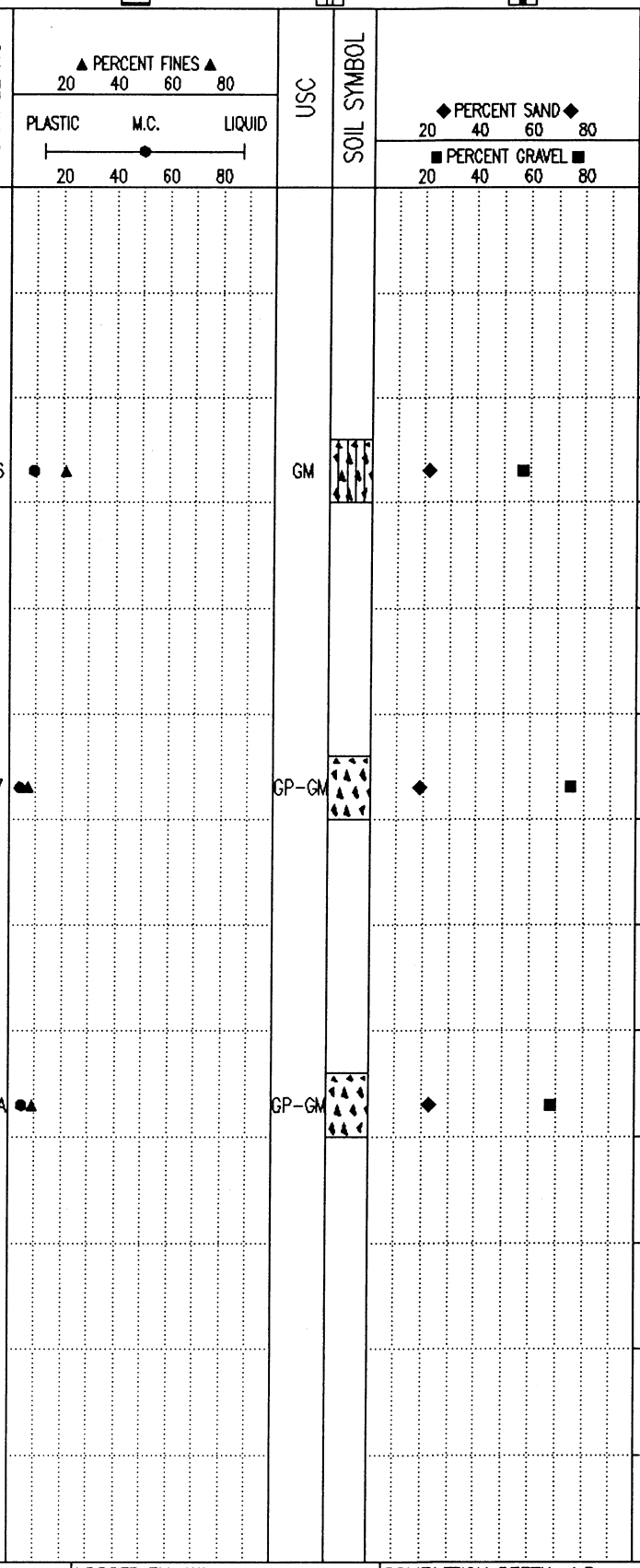
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/12
	Fig. No:	Page 1 of 1

93/11/15 11:49AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-120
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1900+800 o/s 5m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
1.0	SILTY GRAVEL WITH SAND (GM) -brown -damp -hard drilling	AUGER	266	GM	
2.0					
	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -moist	AUGER	267	GP-GM	
3.0					
4.0		AUGER	267A	GP-GM	
	END HOLE at 4.5m -poplar cover				
5.0					
6.0					



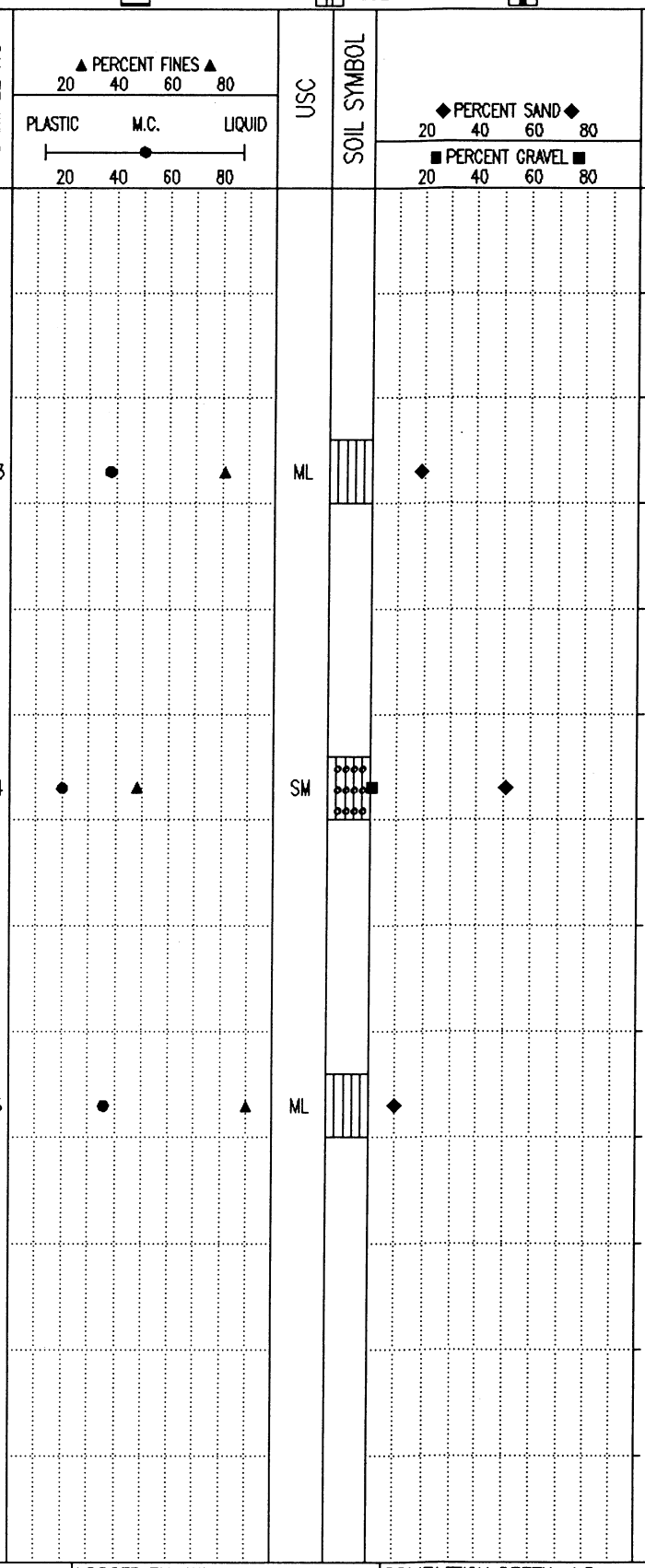
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/12
	Fig. No:	Page 1 of 1

93/11/15 11:47AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-119
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1900+900 o/s 5m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILT WITH SAND (ML) -dark brown -moist -organic -easy drilling	AUGER	263	ML	
2.0	SILTY SAND (SM) -light brown -water at 1.9m	AUGER	264	SM	
	SILT (ML) -light brown -wet -organic	AUGER	265	ML	
	END HOLE at 4.5m -willow and swamp cover				



Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/12
	Fig. No:	Page 1 of 1

93/11/15 11:46AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-118
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1901+000 o/s 5m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ◪ S.P.T. ☒ AUGER ▤ BULK ▥ TUBE ▥ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SANDY SILT (ML) -brown -damp -organic				
1.0		☒	261	ML	▥
	-water at 1.5m				
	WELL-GRADED GRAVEL WITH SILT (GW-GM) -brown -saturated				
2.0					
3.0					
4.0		☒	262	GW-GM	
	END HOLE at 4.5m -willow and swamp cover				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

DEPTH (m)

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/12
	Fig. No:	Page 1 of 1

93/11/15 11:44AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-117
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1901+100 o/s 7m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILT WITH SAND (ML) -dark brown -moist -organic				
1.0		AUGER	259	ML	
	-brown below 1.8m -frozen (Nb) below 1.8m				
2.0					
		AUGER	260	ML	
3.0					
	END HOLE at 3.3m -refusal -willow and spruce cover				
4.0					
5.0					
6.0					

Plot legend: ▲ PERCENT FINES ▲ (20 40 60 80); PLASTIC M.C. LIQUID (20 40 60 80); ◆ PERCENT SAND ◆ (20 40 60 80); ■ PERCENT GRAVEL ■ (20 40 60 80)

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 3.3 m
	REVIEWED BY:	COMPLETE: 92/08/12
	Fig. No:	Page 1 of 1

93/11/15 11:43AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-110
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1901+200 o/s 8m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES (20 40 60 80) / PLASTIC M.C. LIQUID (20 40 60 80)	USC	SOIL SYMBOL	PERCENT SAND / PERCENT GRAVEL (20 40 60 80)	DEPTH (m)
0.0	ORGANIC MATERIAL AND ROAD FILL							0.0
	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -moist -hard drilling							
1.0								1.0
			254		GW-GM			
2.0								2.0
			255		GW-GM			
3.0								3.0
4.0								4.0
			256		GW-GM			
	END HOLE at 4.5m -in ditch							
5.0								5.0
6.0								6.0

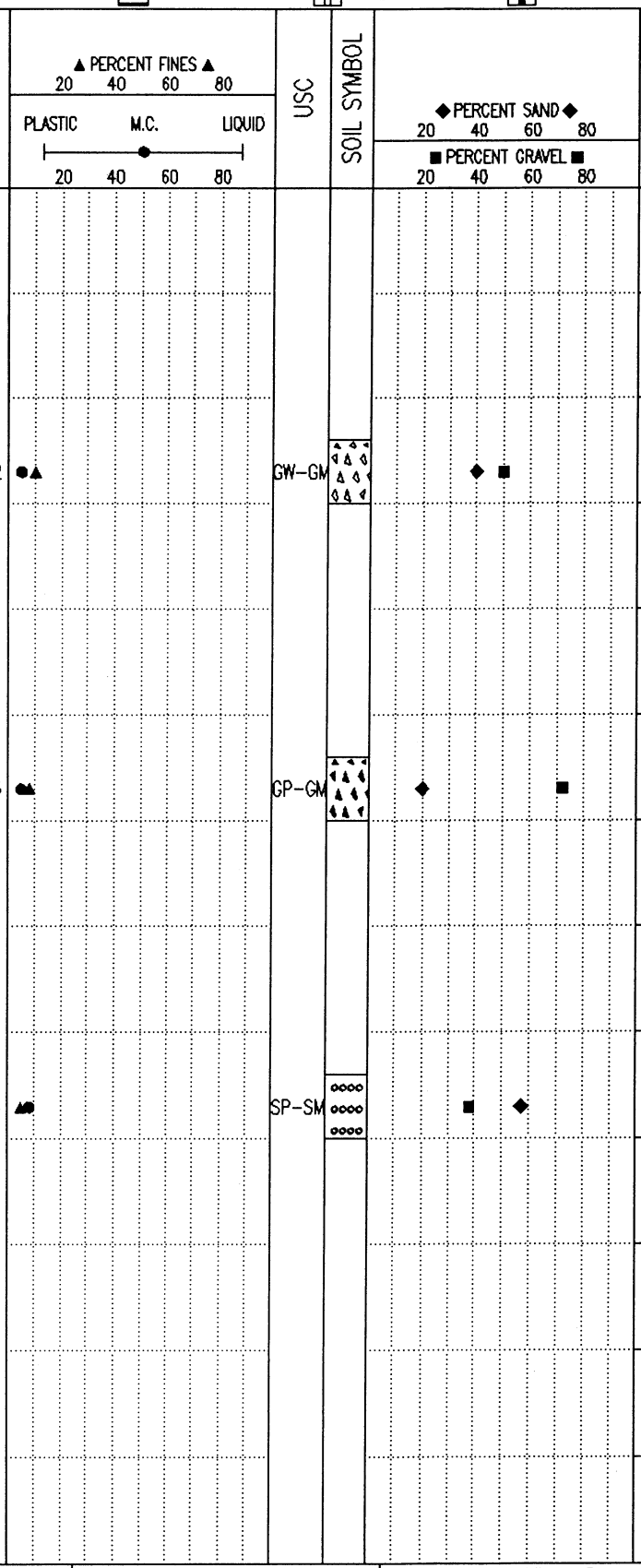
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/11
	Fig. No:	Page 1 of 1

93/11/15 11:41AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-109
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1901+300 o/s 12m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL AND ROAD FILL				
	WELL TO POORLY GRADED GRAVEL WITH SILT AND SAND (GW-GM TO GP-GM) -brown -moist				
1.0		AUGER	252	GW-GM	
2.0					
3.0		AUGER	253	GP-GM	
	POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM) -brown -damp				
4.0		AUGER	254	SP-SM	
	END HOLE at 4.5m -in ditch				
5.0					
6.0					



Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/11
	Fig. No:	Page 1 of 1

93/11/15 11:40AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-108
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1901+400 o/s 14m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL AND ROAD FILL				
	WELL-GRADED GRAVEL WITH SAND (GW) -brown -moist				
1.0		AUGER	249	GW	
2.0					
3.0		AUGER	250	GW	
4.0	POORLY GRADED SAND (SP) -brown -damp	AUGER	251	SP	
	END HOLE at 4.5m -in ditch				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/11
	Fig. No:	Page 1 of 1

93/11/15 11:38AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-107
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1901+500 o/s 8m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL AND ROAD FILL				
	SILTY SAND (SM) -brown -wet				
1.0		AUGER	246	SM	
	SILT (ML) -gray -frozen (Nb)				
2.0					
		AUGER	247	ML	
3.0					
4.0					
		AUGER	248	ML	
	END HOLE at 4.5m -in ditch				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/11
	Fig. No:	Page 1 of 1

93/11/15 11:36AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-106
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1901+600 o/s 6m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL AND ROAD FILL				
	POORLY GRADED GRAVEL WITH SAND (GP) -brown -moist -hard drilling	AUGER	243	GP	
1.0					
2.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -moist	AUGER	244	GP-GM	
3.0					
	POORLY GRADED SAND WITH GRAVEL (SP) -brown -damp	AUGER	245	SP	
4.0					
	END HOLE at 4.5m -in ditch				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

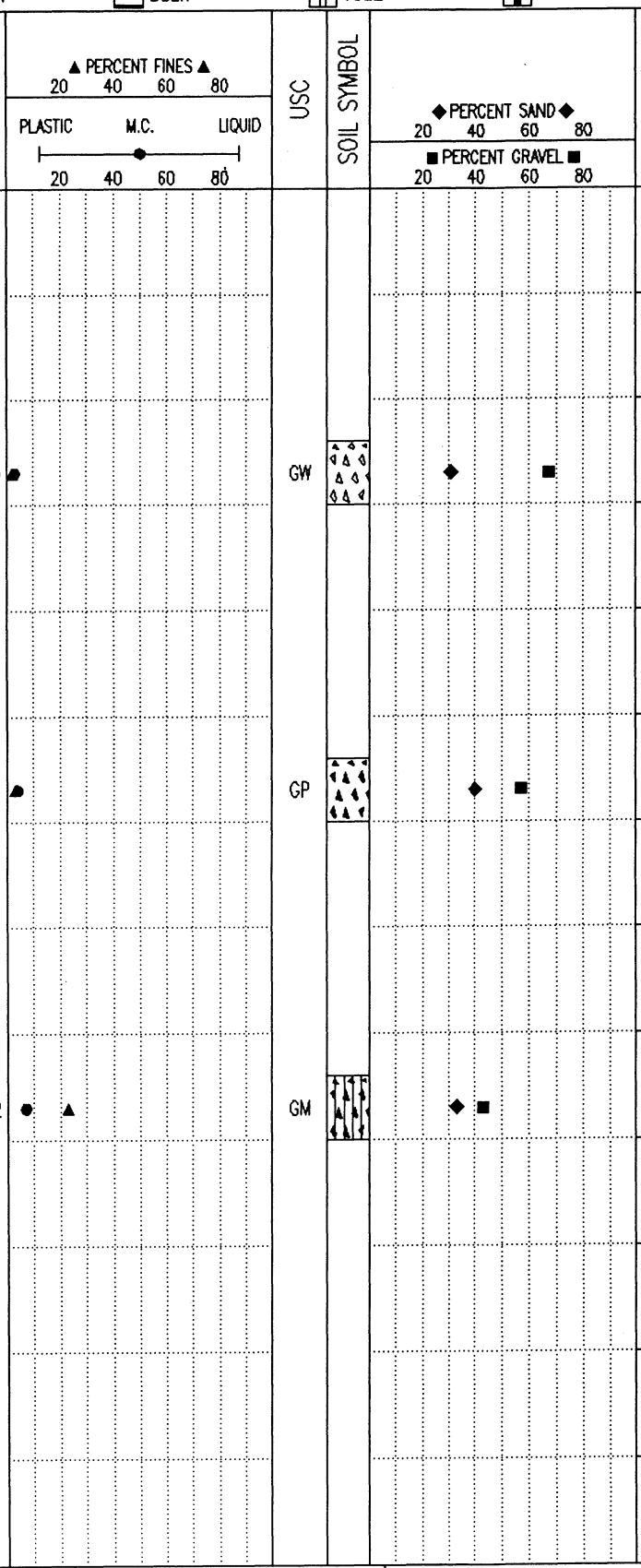
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/11
	Fig. No:	Page 1 of 1

93/11/15 11:36AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-105
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1901+700 o/s 7m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL AND ROAD FILL				
	WELL TO POORLY GRADED GRAVEL WITH SAND (GW TO GP) -brown -moist				
1.0		AUGER	240	GW	
2.0					
		AUGER	241	GP	
3.0					
4.0	SILTY GRAVEL WITH SAND (GM) -gray -damp	AUGER	242	GM	
	END HOLE at 4.5m -in ditch				
5.0					
6.0					



Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/11
	Fig. No:	Page 1 of 1

93/11/15 11:33AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-104
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1901+800 o/s 8m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ (20 40 60 80) / PLASTIC M.C. LIQUID (20 40 60 80)	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ (20 40 60 80) / ■ PERCENT GRAVEL ■ (20 40 60 80)	DEPTH (m)
0.0	ORGANIC MATERIAL AND ROAD FILL							0.0
	WELL-GRADED GRAVEL WITH SAND (GW) -brown -damp							
1.0								1.0
		AUGER	237		GW			
2.0								2.0
		AUGER	238		GW			
3.0								3.0
	GRAVELLY SILT (ML) -gray -wet							
4.0								4.0
		AUGER	239		ML			
	END HOLE at 4.5m -in ditch							
5.0								5.0
6.0								6.0

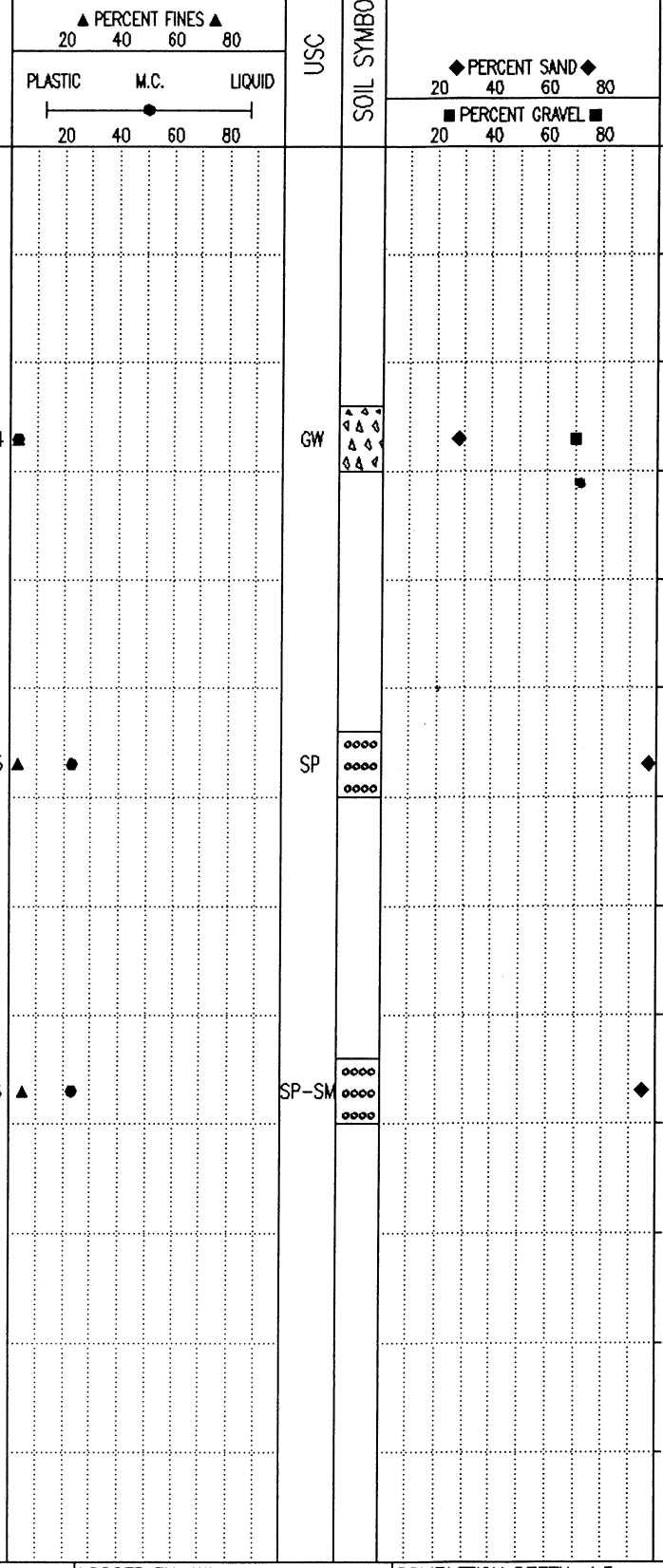
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/11
	Fig. No:	Page 1 of 1

93/11/15 11:32AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-103
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1901+900 o/s 3m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL AND ROAD FILL				
1.0	WELL-GRADED GRAVEL WITH SAND (GW) -brown -moist	AUGER	234	GW	
2.0	POORLY GRADED SAND (SP) -brown -saturated	AUGER	235	SP	
3.0					
4.0	POORLY GRADED SAND WITH SILT (SP-SM) -brown -saturated	AUGER	236	SP-SM	
5.0	END HOLE at 4.5m -in ditch				
6.0					



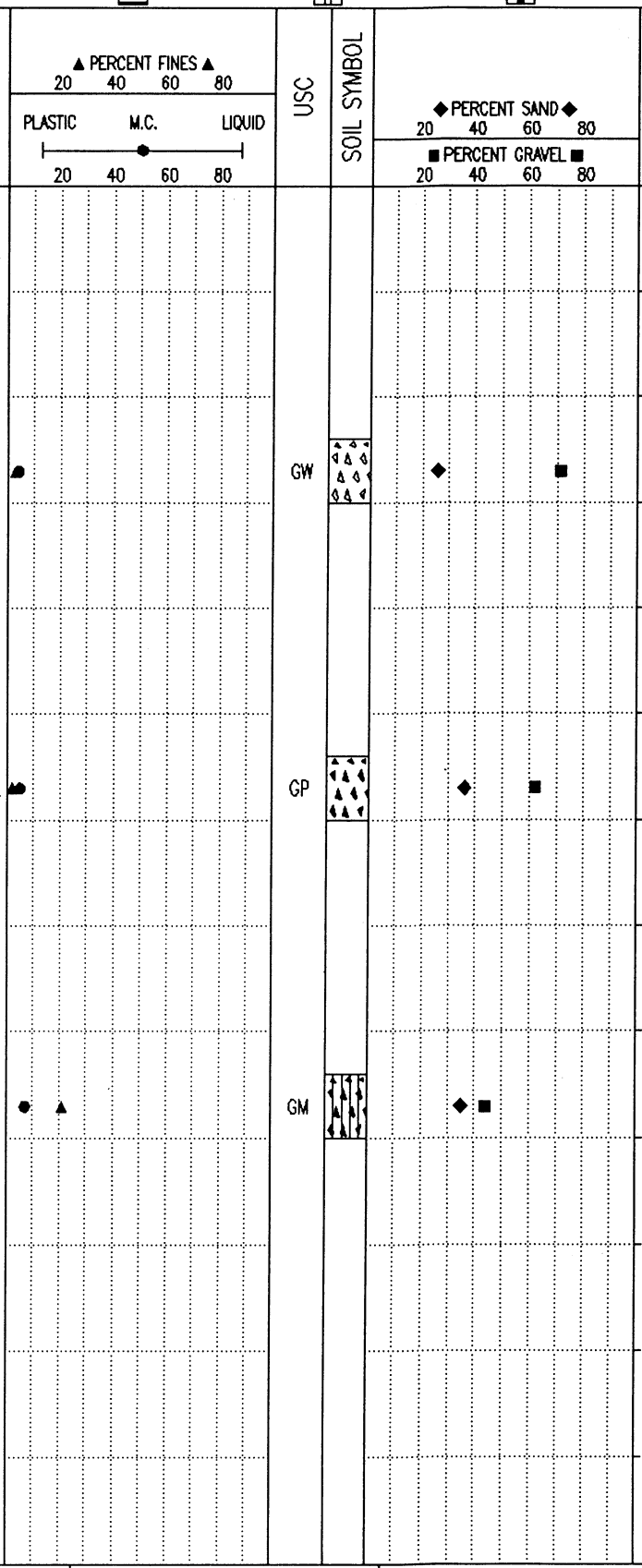
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/11
	Fig. No:	Page 1 of 1

93/11/15 11:30AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-102
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1902+000	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
1.0	WELL TO POORLY GRADED GRAVEL WITH SAND (GW TO GP) -brown -moist	AUGER	231	GW	
2.0					
3.0		AUGER	232	GP	
	SILTY GRAVEL WITH SAND (GM) -light brown -wet				
4.0		AUGER	233	GM	
	END HOLE at 4.5m -willow, poplar and spruce cover				
5.0					
6.0					



Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/11
	Fig. No:	Page 1 of 1

93/11/15 11:29AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-101
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1902+100	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES (20 40 60 80) / PLASTIC M.C. LIQUID (20 40 60 80)	USC	SOIL SYMBOL	PERCENT SAND (20 40 60 80) / PERCENT GRAVEL (20 40 60 80)	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
	WELL-GRADED GRAVEL WITH SAND (GW) -brown -wet -water at 0.6m							
1.0		AUGER	230		GW			1.0
2.0	-saturated below 2.4m -maximum 50mm material augered up							2.0
3.0								3.0
4.0								4.0
	END HOLE at 4.5m -willow and spruce cover							
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/11
	Fig. No:	Page 1 of 1

93/11/15 11:27AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-100
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1902+200	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
1.0	SILT WITH SAND (ML) –dark brown –dry –organic	AUGER	227	ML	
2.0	POORLY TO WELL-GRADED GRAVEL WITH SILT AND SAND (GP-GM TO GW-GM) –brown –moist –harder drilling	AUGER	228	GP-GM	
3.0					
4.0	–damp below 4.2m	AUGER	229	GW-GM	
5.0	END HOLE at 4.5m –small willow cover				
6.0					

▲ PERCENT FINES ▲ (20 40 60 80)

PLASTIC — M.C. — LIQUID (20 40 60 80)

◆ PERCENT SAND ◆ (20 40 60 80)

■ PERCENT GRAVEL ■ (20 40 60 80)

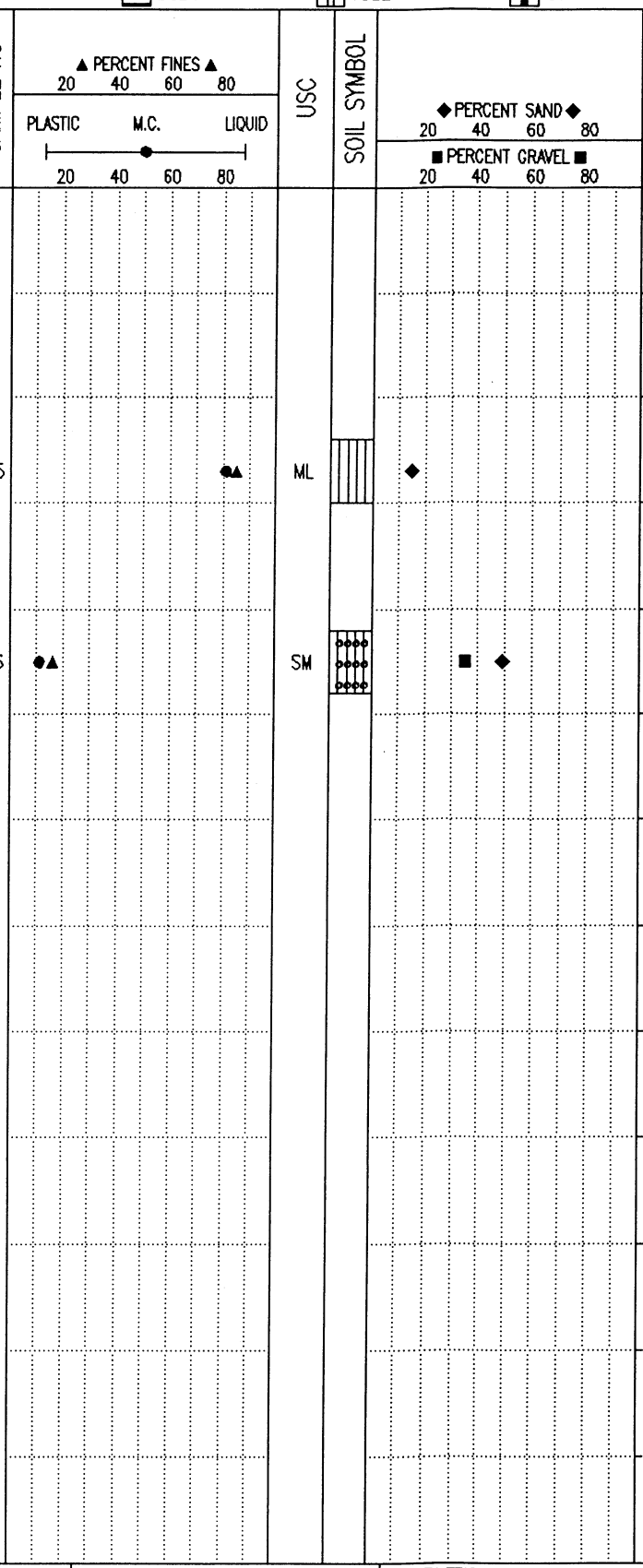
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/11
	Fig. No:	Page 1 of 1

93/11/15 11:26AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-99
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1902+300	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILT WITH SAND (ML) -dark brown -frozen (Nb) -organic	AUGER	225	ML	
1.0					
2.0	SILTY SAND WITH GRAVEL (SM) -brown	AUGER	226	SM	
	END HOLE at 2.4m -refusal -swamp and spruce cover				
3.0					
4.0					
5.0					
6.0					



Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 2.4 m
	REVIEWED BY:	COMPLETE: 92/08/11
	Fig. No:	Page 1 of 1

93/11/15 11:24AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-98
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1902+450	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -frozen (Vx) with visible ice	AUGER	224	GW-GM	
	END HOLE at 1.5m -refusal twice -swamp and small spruce cover				

Plot axes: ▲ PERCENT FINES ▲ (20 40 60 80); PLASTIC M.C. LIQUID (20 40 60 80); ◆ PERCENT SAND ◆ (20 40 60 80); ■ PERCENT GRAVEL ■ (20 40 60 80); DEPTH (m) 0.0, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 1.5 m
	REVIEWED BY:	COMPLETE: 92/08/11
	Fig. No:	Page 1 of 1

93/11/15 11:23AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-97
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1902+550	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES (20 40 60 80) / PLASTIC M.C. LIQUID (20 40 60 80)	USC	SOIL SYMBOL	PERCENT SAND (20 40 60 80) / PERCENT GRAVEL (20 40 60 80)	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -moist							
1.0		AUGER	223		GW-GM			1.0
	END HOLE at 1.5m -refusal twice -swamp and small spruce cover							
2.0								2.0
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 1.5 m
	REVIEWED BY:	COMPLETE: 92/08/11
	Fig. No:	Page 1 of 1

93/11/15 11:21AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 196-96
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0312
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1902+650	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL AND ROAD FILL				
	POORLY GRADED GRAVEL WITH SAND (GP) –brown –dry				
1.0		AUGER	220	GP	
2.0	WELL–GRADED GRAVEL WITH SILT AND SAND (GW–GM) –brown –dry				
3.0		AUGER	221	GW–GM	
	POORLY GRADED GRAVEL WITH SAND (GP) –brown –dry				
4.0		AUGER	222	GP	
	END HOLE at 4.5m –in ditch				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/10
	Fig. No:	Page 1 of 1

93/11/15 11:20AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 195-95
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1902+750 o/s 5m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL AND ROAD FILL				
	POORLY GRADED GRAVEL WITH SAND (GP) –brown –moist				
1.0		AUGER	217	GP	
2.0	WELL TO POORLY GRADED GRAVEL WITH SILT AND SAND (GW-GM TO GP-GM) –brown –moist				
3.0		AUGER	218	GW-GM	
4.0		AUGER	219	GP-GM	
	END HOLE at 4.5m –in ditch				
5.0					
6.0					

PERCENT FINES (20 40 60 80); PLASTIC M.C. LIQUID (20 40 60 80); PERCENT SAND (20 40 60 80); PERCENT GRAVEL (20 40 60 80)

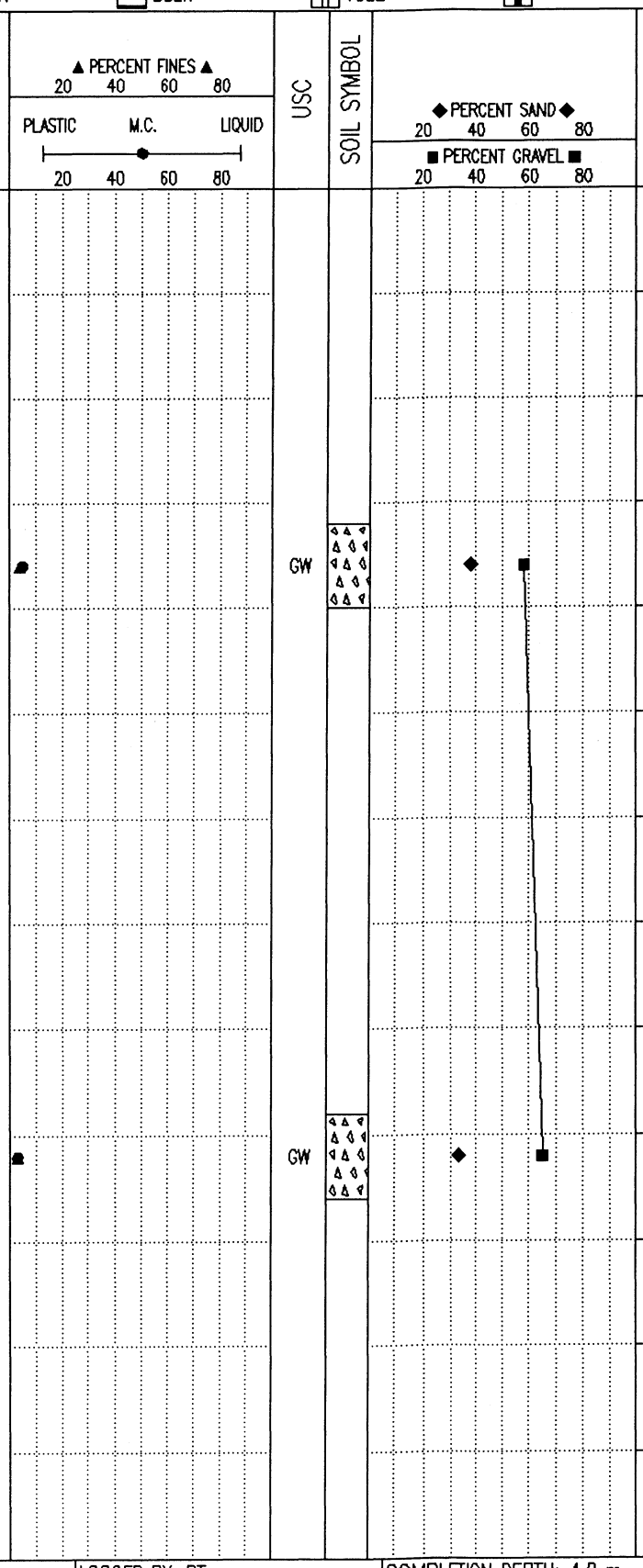
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/10
	Fig. No:	Page 1 of 1

93/11/15 10:13AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 257-25
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1902+800 o/s 10m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC SILT				
	WELL-GRADED GRAVEL WITH SAND (GW) -brown -moist -maximum 150mm material -estimate 5% +100mm				
1.0					
			64	GW	
2.0					
3.0					
4.0					
			65	GW	
5.0	END HOLE at 4.9m				
6.0					



Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.9 m
	REVIEWED BY:	COMPLETE: 93/10/01
	Fig. No:	Page 1 of 1

93/10/28 01:57PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 195-94
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1902+850 o/s 8m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL AND ROAD FILL				
	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -moist	AUGER	214	GW-GM	
1.0					
2.0	WELL-GRADED SAND WITH SILT AND GRAVEL (SW-SM) -brown -moist	AUGER	215	SW-SM	
3.0					
4.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -moist	AUGER	216	GP-GM	
	END HOLE at 4.5m -in ditch				
5.0					
6.0					

Chart axis: ▲ PERCENT FINES ▲ 20 40 60 80; PLASTIC M.C. LIQUID 20 40 60 80; ◆ PERCENT SAND ◆ 20 40 60 80; ■ PERCENT GRAVEL ■ 20 40 60 80; DEPTH (m) 0.0 1.0 2.0 3.0 4.0 5.0 6.0

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/10
	Fig. No:	Page 1 of 1

93/11/15 10:11AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 195-93
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1902+950 o/s 7m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL AND ROAD FILL				
	POORLY GRADED GRAVEL WITH SAND (GP) –brown –moist	AUGER	212	GP	
2.0	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) –brown –moist	AUGER	213	GW-GM	
3.0	END HOLE at 3.1m –refusal –in ditch				

Scales: ▲ PERCENT FINES ▲ 20 40 60 80; PLASTIC M.C. LIQUID 20 40 60 80; ◆ PERCENT SAND ◆ 20 40 60 80; ■ PERCENT GRAVEL ■ 20 40 60 80; DEPTH (m) 0.0, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0

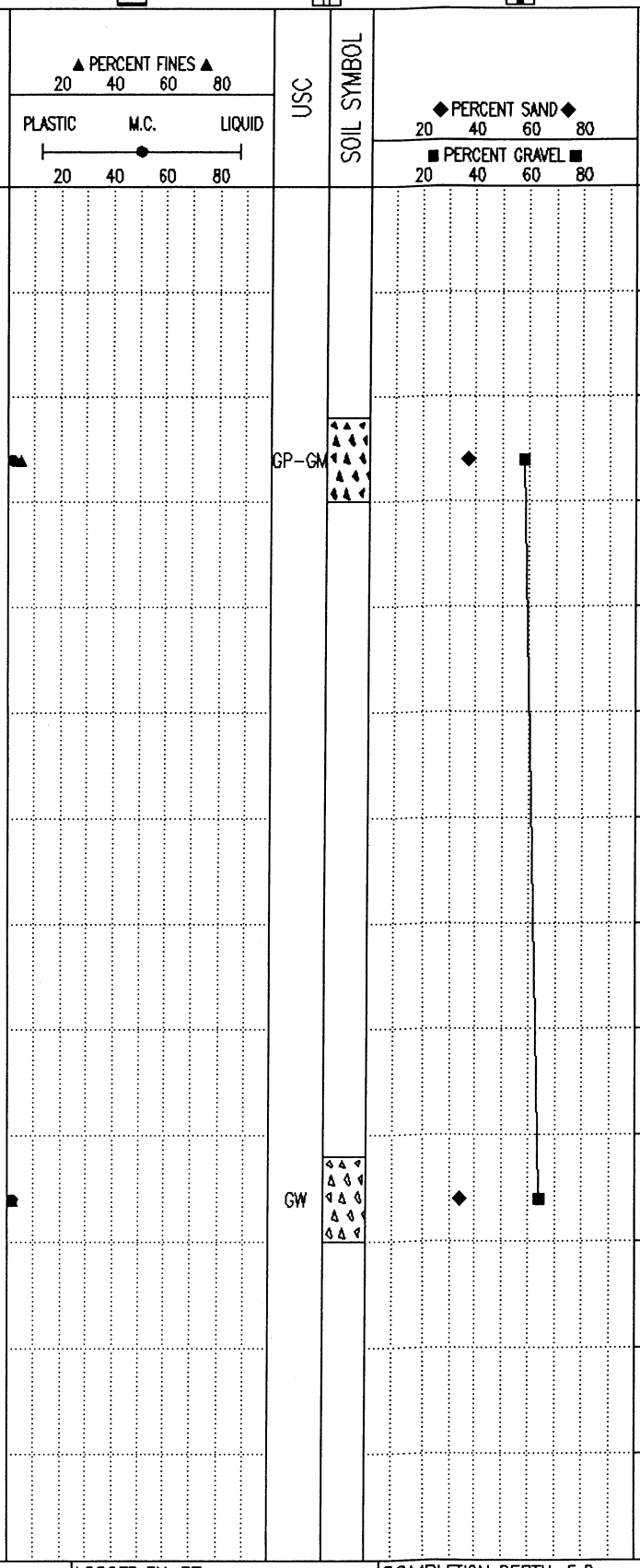
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 3.1 m
	REVIEWED BY:	COMPLETE: 92/08/10
	Fig. No:	Page 1 of 1

93/11/15 10:10AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 257-26
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1902+950 o/s 10m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	SILTY ORGANIC MATERIAL				
	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -moist -maximum 150mm material -estimate 5% +100mm		66	GP-GM	
3.0	WELL-GRADED GRAVEL WITH SAND (GW) -brown -moist -maximum 150mm material -estimate 5% +100mm		67	GW	
5.0	END HOLE at 5.0m				



Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 5.0 m
	REVIEWED BY:	COMPLETE: 93/10/01
	Fig. No:	Page 1 of 1

93/10/28 01:58PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 195-92
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1903+050 o/s 6m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL AND ROAD FILL				
	POORLY GRADED GRAVEL WITH SAND (GP) -brown -moist -hard drilling				
1.0		AUGER	209	GP	
2.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -moist				
3.0		AUGER	210	GP-GM	
4.0		AUGER	211	GP-GM	
	END HOLE at 4.5m -in ditch				
5.0					
6.0					

PERCENT FINES: 20 40 60 80

PLASTIC M.C. LIQUID: 20 40 60 80

PERCENT SAND: 20 40 60 80

PERCENT GRAVEL: 20 40 60 80

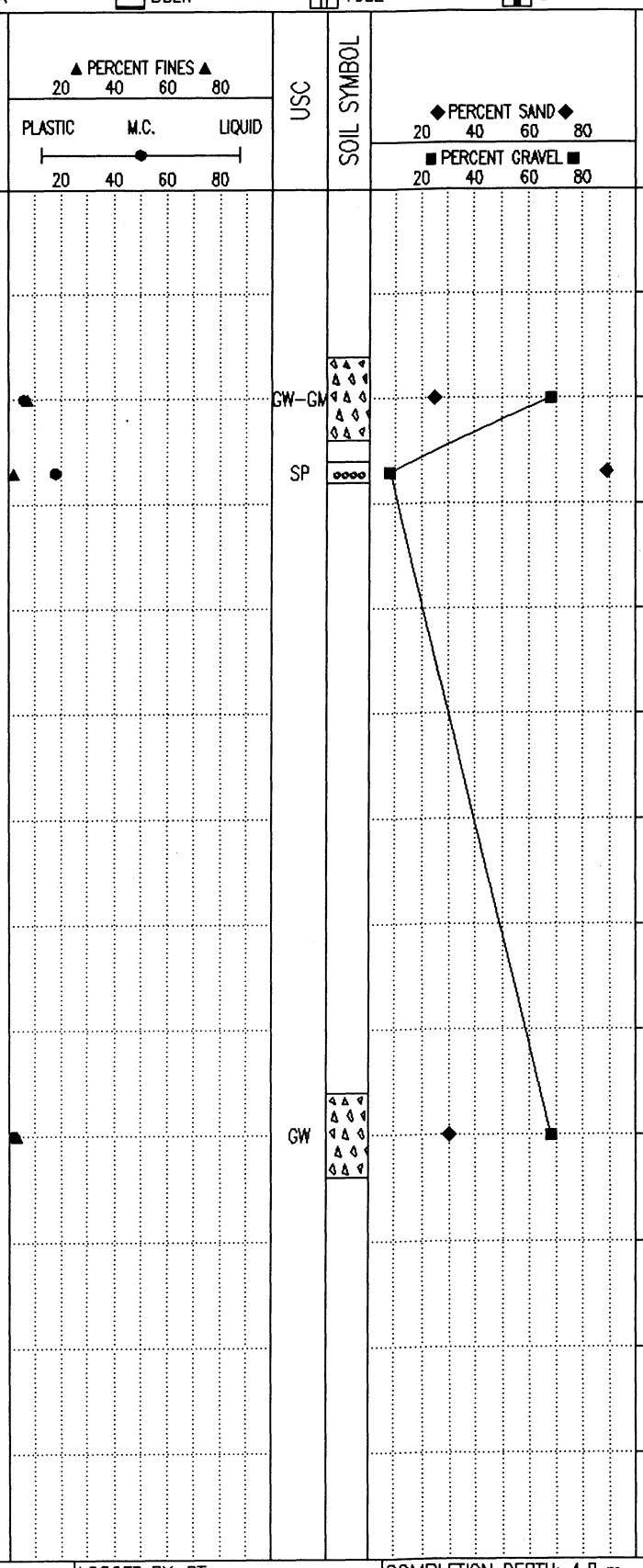
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/10
	Fig. No:	Page 1 of 1

93/11/15 10:08AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 257-27
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1903+050 o/s 10m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	SILTY ORGANIC MATERIAL				
	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -maximum 100mm material -frozen with visible ice (Vx) below 0.6m		68	GW-GM	
1.0	POORLY GRADED SAND (SP) -brown -frozen with visible ice (Vx) -first refusal at 1.4m		69	SP	
2.0	WELL-GRADED GRAVEL WITH SAND (GW) -brown -frozen (Nb) -maximum 75mm material		70	GW	
3.0					
4.0					
5.0	END HOLE at 4.8m				
6.0					



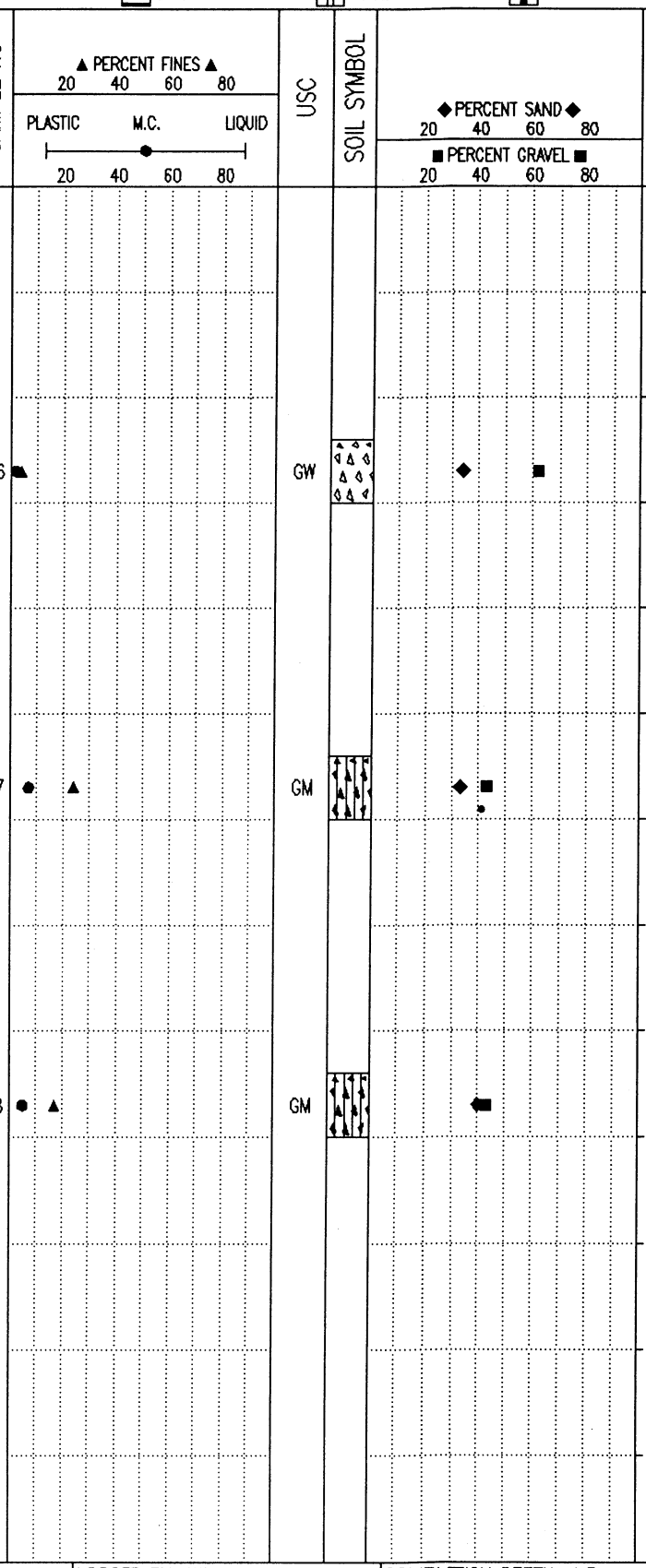
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.8 m
	REVIEWED BY:	COMPLETE: 93/10/01
	Fig. No:	Page 1 of 1

93/10/28 02:00PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 195-91
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1903+150 o/s 2m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL AND ROAD FILL				
	WELL-GRADED GRAVEL WITH SAND (GW) -brown -moist				
1.0	-refusal at 1.2m	AUGER	206	GW	
2.0	SILTY GRAVEL WITH SAND (GM) -light brown -damp				
3.0		AUGER	207	GM	
4.0		AUGER	208	GM	
	END HOLE at 4.5m -in ditch				
5.0					
6.0					



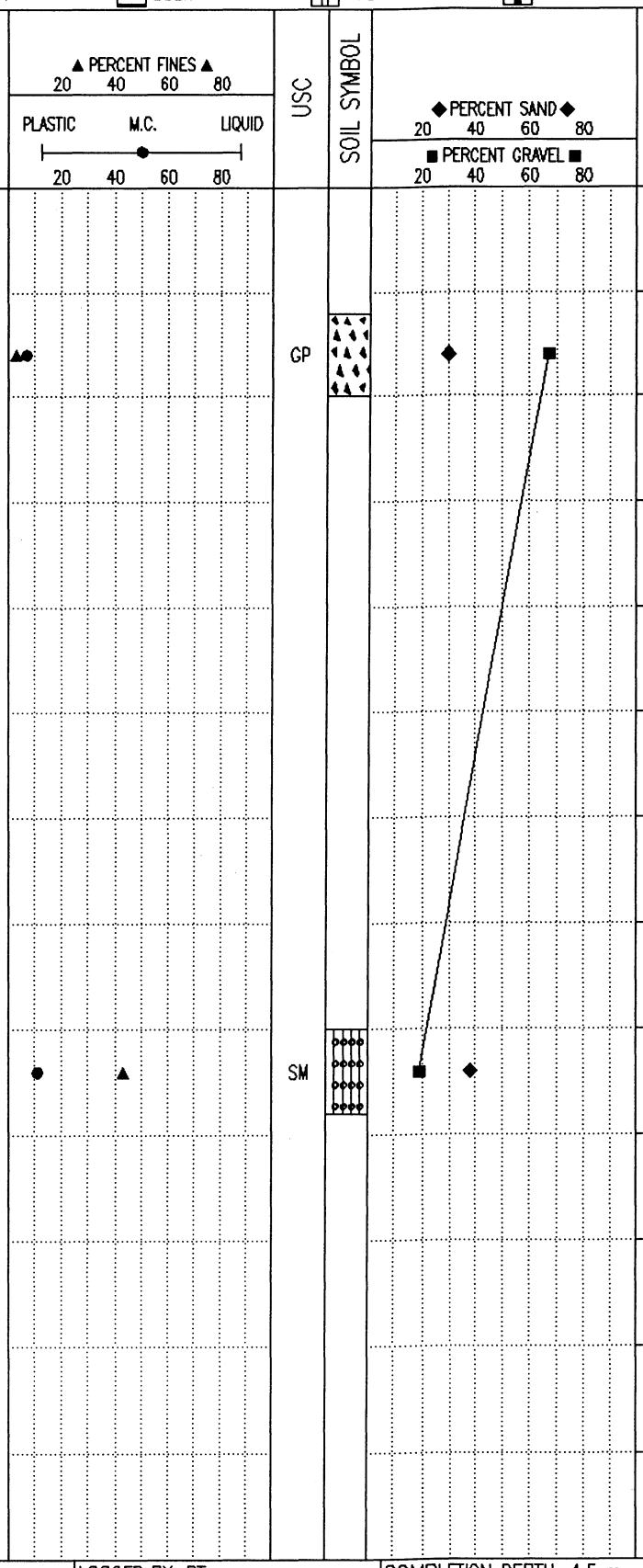
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/10
	Fig. No:	Page 1 of 1

93/11/15 10:07AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 257-28
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1903+150 o/s 15m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	SILTY ORGANIC MATERIAL				
	POORLY GRADED GRAVEL WITH SAND (GP) -brown -frozen (Vx) below 0.5m -maximum 100mm material		71	GP	
4.0	SILTY SAND WITH GRAVEL (SM) -brown -frozen (Nb)		72	SM	
	END HOLE at 4.5m				



Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 93/10/01
	Fig. No:	Page 1 of 1

93/10/28 10:22AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 195-90
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1903+250 o/s 6m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL AND ROAD FILL				
	POORLY TO WELL-GRADED GRAVEL WITH SAND (GP TO GW) -brown -dry				
1.0		AUGER	203	GP	
2.0					
	-moist below 2.6m	AUGER	204	GW	
3.0					
4.0		AUGER	205	GW	
	END HOLE at 4.5m -in ditch				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

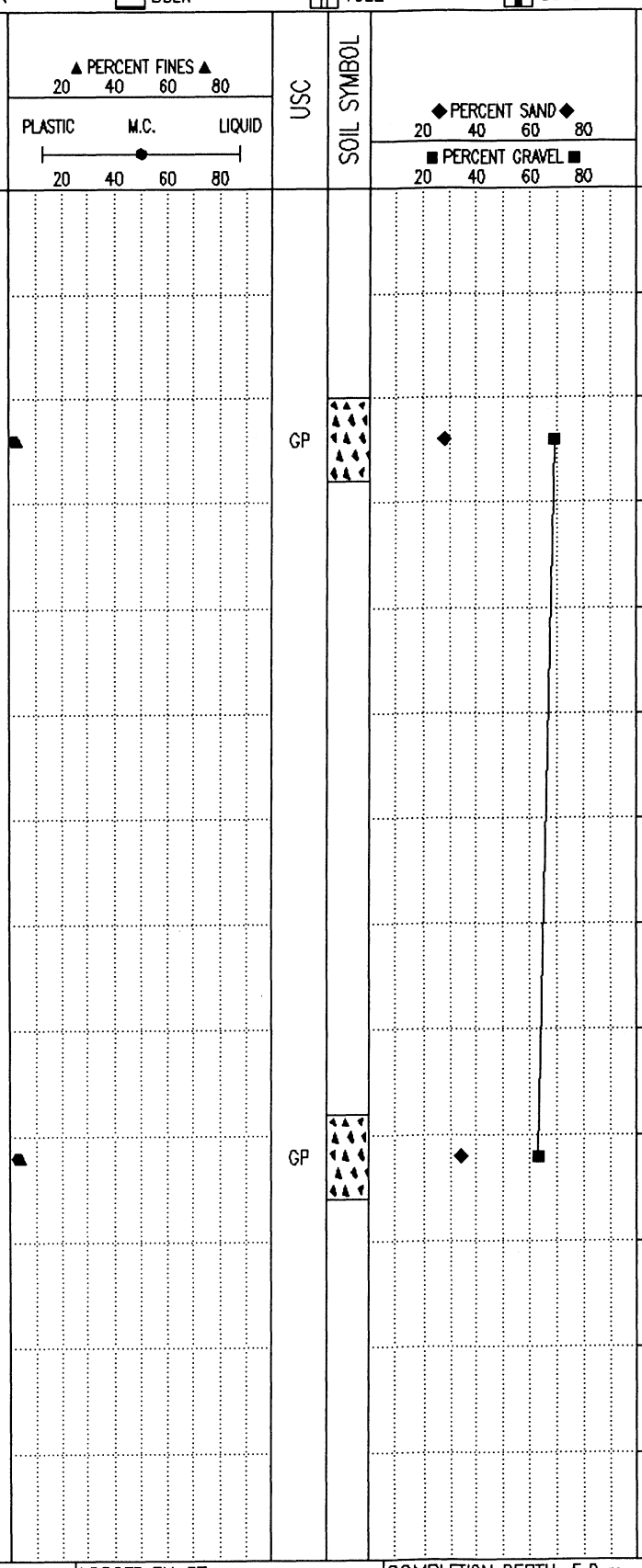
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/10
	Fig. No:	Page 1 of 1

93/11/15 10:05AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 257-29
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1903+250 o/s 10m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	GRAVELLY SILT -brown				
	SAND -brown -some silt				
	POORLY GRADED GRAVEL WITH SAND (GP) -brown -moist -maximum 100mm material		73	GP	
1.0					
2.0					
3.0					
4.0			74	GP	
5.0	END HOLE at 5.0m -in bladed area				
6.0					



Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 5.0 m
	REVIEWED BY:	COMPLETE: 93/10/01
	Fig. No:	Page 1 of 1

93/10/28 02:03PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 195-89
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1903+350 o/s 10m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL AND ROAD FILL				
	SILTY GRAVEL WITH SAND (GM) -light brown -damp -easy drilling				
1.0		AUGER	200	GM	
2.0	SILTY SAND WITH GRAVEL (SM) -light brown -saturated				
3.0		AUGER	201	SM	
	SILTY GRAVEL WITH SAND (GM) -light brown -saturated				
4.0		AUGER	202	GM	
	END HOLE at 4.5m -in ditch				
5.0					
6.0					

Scales: ▲ PERCENT FINES ▲ 20 40 60 80; PLASTIC M.C. LIQUID 20 40 60 80; ◆ PERCENT SAND ◆ 20 40 60 80; ■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/10
	Fig. No:	Page 1 of 1

93/11/15 10:04AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 195-88
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1903+450 o/s 8m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL AND ROAD FILL				
	POORLY GRADED GRAVEL WITH SAND (GP) -brown -moist	AUGER	197	GP	
2.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -moist	AUGER	198	GP-GM	
4.0		AUGER	199	GP-GM	
	END HOLE at 4.5m -in ditch				

Scale: 0.0, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/10
	Fig. No:	Page 1 of 1

93/11/15 10:00AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 195-87
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1903+550 o/s 7m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL AND ROAD FILL				
	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -moist				
1.0		AUGER	194	GW-GM	
2.0	WELL-GRADED GRAVEL WITH SAND (GW) -brown -moist				
		AUGER	195	GW	
3.0	SILTY SAND (SM) -brown -moist				
4.0		AUGER	196	SM	
	END HOLE at 4.5m -in ditch				
5.0					
6.0					

Plot columns: ▲ PERCENT FINES ▲ (20 40 60 80); PLASTIC M.C. LIQUID (20 40 60 80); ◆ PERCENT SAND ◆ (20 40 60 80); ■ PERCENT GRAVEL ■ (20 40 60 80)

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/10
	Fig. No:	Page 1 of 1

93/11/15 09:59AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 195-80
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1903+650	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL AND ROAD FILL				
	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -moist -hard drilling				
1.0		AUGER	186	GW-GM	
2.0					
3.0		AUGER	187	GW-GM	
4.0	-damp below 4.0m	AUGER	188	GW-GM	
	END HOLE at 4.5m -in ditch				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/07
	Fig. No:	Page 1 of 1

93/11/15 09:49AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 195-76
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1903+750 o/s 6m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL AND ROAD FILL				
	POORLY TO WELL-GRADED GRAVEL WITH SAND (GP TO GW) -brown -moist -maximum 75mm material augered up -hard drilling				
1.0		AUGER	181	GP	
2.0					
3.0		AUGER	182	GW	
4.0		AUGER	183	GW	
	END HOLE at 4.5m -in ditch				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/07
	Fig. No:	Page 1 of 1

93/11/15 09:43AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 195-75
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1903+850 o/s 5m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL AND ROAD FILL				
	POORLY TO WELL-GRADED GRAVEL WITH SAND (GP TO GW) -brown -moist				
1.0	-refusal at 1.2m	AUGER	178	GP	
2.0					
3.0		AUGER	179	GW	
4.0		AUGER	180	GW	
	END HOLE at 4.5m -in ditch				
5.0					
6.0					

Percent fines: 20 40 60 80. Plastic M.C. Liquid: 20 40 60 80. Percent sand: 20 40 60 80. Percent gravel: 20 40 60 80.

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/07
	Fig. No:	Page 1 of 1

93/11/15 09:41AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 195-74
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1903+950 o/s 6m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC MATERIAL AND ROAD FILL							0.0
	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -dry -maximum 75mm material augered up							
1.0								1.0
			177		GP-GM			
2.0	-first refusal at 2.0m							2.0
	END HOLE at 2.7m -refusal -in ditch							
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 2.7 m
	REVIEWED BY:	COMPLETE: 92/08/07
	Fig. No:	Page 1 of 1

93/11/15 09:40AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 195-73
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1904+050	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL AND ROAD FILL				
	WELL TO POORLY GRADED GRAVEL WITH SAND (GW TO GP) -brown -moist				
1.0		AUGER	174	GW	
2.0	-damp below 2.4m -maximum 75mm material augered up below 2.4m				
3.0		AUGER	175	GW	
	-moist below 3.8m				
4.0		AUGER	176	GP	
	END HOLE at 4.5m -in ditch				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/07
	Fig. No:	Page 1 of 1

93/11/15 09:38AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 195-72
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1904+150	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL AND ROAD FILL				
	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -moist				
1.0		AUGER	171	GW-GM	
2.0					
3.0		AUGER	172	GW-GM	
4.0	-damp below 4.0m	AUGER	173	GW-GM	
	END HOLE at 4.5m -in ditch				
5.0					
6.0					

Plot scales: ▲ PERCENT FINES ▲ 20 40 60 80; PLASTIC M.C. LIQUID 20 40 60 80; ◆ PERCENT SAND ◆ 20 40 60 80; ■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/07
	Fig. No:	Page 1 of 1

93/11/15 09:37AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 195-71
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1904+250	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ROAD FILL				
	WELL-GRADED GRAVEL WITH SAND (GW) -brown -damp -hard drilling				
1.0		AUGER	169	GW	
	-water at 1.5m -saturated below 1.5m				
2.0					
		AUGER	170	GW	
3.0					
4.0					
	END HOLE at 4.5m -in ditch				
5.0					
6.0					

Plot: ▲ PERCENT FINES ▲ (20, 40, 60, 80); PLASTIC — M.C. — LIQUID (20, 40, 60, 80); ◆ PERCENT SAND ◆ (20, 40, 60, 80); ■ PERCENT GRAVEL ■ (20, 40, 60, 80)

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/07
	Fig. No:	Page 1 of 1

93/11/12 02:42PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-70
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1904+350	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
1.0	SILTY GRAVEL WITH SAND (GM) -light brown -frozen (Nf)	X	168	● ▲	GM		◆ ■	1.0
2.0								2.0
	END HOLE at 2.4m -swamp and small spruce cover							
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 2.4 m
	REVIEWED BY:	COMPLETE: 92/08/07
	Fig. No:	Page 1 of 1

93/11/12 02:41PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-69
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1904+475	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILTY GRAVEL WITH SAND (GM) -light brown -frozen with visible ice (Vx)				
1.0		AUGER	166	GM	
2.0	-frozen (Nf) below 2.1m				
3.0		AUGER	167	GM	
	END HOLE at 3.3m -refusal -spruce cover				
4.0					
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

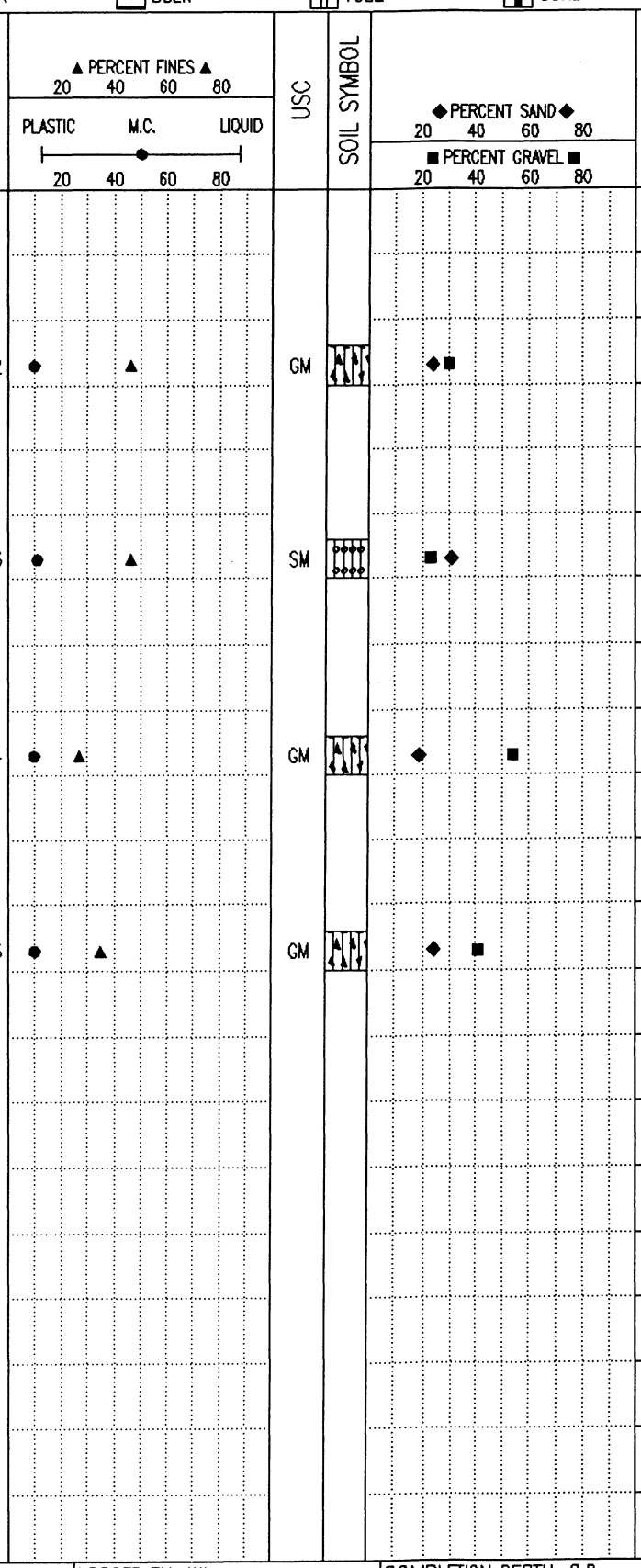
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 3.3 m
	REVIEWED BY:	COMPLETE: 92/08/07
	Fig. No:	Page 1 of 1

93/11/12 02:40PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-68
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1904+550	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILTY GRAVEL WITH SAND (GM) -light brown -moist -easy drilling	AUGER	162	GM	
1.0					
2.0	SILTY SAND WITH GRAVEL (SM) -gray -wet	AUGER	163	SM	
3.0	-harder drilling below 3.6m -water at 3.9m				
4.0	SILTY GRAVEL WITH SAND (GM) -gray -damp	AUGER	164	GM	
5.0					
6.0		AUGER	165	GM	
7.0	END HOLE at 6.9m -refusal -spruce, willow and birch cover				
8.0					
9.0					
10.0					



Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 6.9 m
	REVIEWED BY:	COMPLETE: 92/08/07
	Fig. No:	Page 1 of 1

93/11/12 02:38PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 281-06
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL: SCHRAMM AIR ROTARY	LOCATION: 1904+555 o/s 30mRt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	WELL-GRADED SAND WITH GRAVEL (SW) -brown -wet with traces of ice -smooth drilling -noisy jumpy drilling below 0.8 m	RETURN	6	SW	
1.0					
2.0					
3.0	SILTY SAND TO SILTY SAND WITH GRAVEL (SM) -brown -smooth drilling				
4.0		RETURN	7	SM	
5.0					
6.0					
7.0					
8.0					
9.0	-gray below 9.2 m				
10.0		RETURN	8	SM	

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: DT REVIEWED BY: Fig. No:	COMPLETION DEPTH: 15.2 m COMPLETE: 94/02/28 Page 1 of 2

94/03/28 04:36PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 281-06
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL: SCHRAMM AIR ROTARY	LOCATION: 1904+555 o/s 30mRt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
10.5					
11.5					
			9	SM	
12.5					
13.5					
			10	SM	
14.5					
	WELL-GRADED SAND WITH SILT AND GRAVEL (SW-SM) -gray		11	SW-SM	
15.5	END HOLE at 15.2 m				
16.5					
17.5					
18.5					
19.5					
20.5					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 15.2 m
	REVIEWED BY:	COMPLETE: 94/02/28
	Fig. No:	Page 2 of 2

94/03/28 04:38PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-67
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1904+575	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
	SANDY GRAVEL –trace of silt							
1.0								1.0
	END HOLE at 1.3m –refusal twice at 1.3m –spruce, willow and poplar cover							
2.0								2.0
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 1.3 m
	REVIEWED BY:	COMPLETE: 92/08/07
	Fig. No:	Page 1 of 1

93/11/12 02:36PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-66
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1904+600	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	WELL-GRADED GRAVEL (GW) -brown -damp -hard drilling				
1.0		AUGER	161	GW	
	-refusal at 1.5m				
2.0	END HOLE at 2.0m -refusal -spruce and poplar cover				
3.0					
4.0					
5.0					
6.0					

▲ PERCENT FINES ▲ (20, 40, 60, 80)

PLASTIC — M.C. — LIQUID (20, 40, 60, 80)

◆ PERCENT SAND ◆ (20, 40, 60, 80)

■ PERCENT GRAVEL ■ (20, 40, 60, 80)

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 2.0 m
	REVIEWED BY:	COMPLETE: 92/08/07
	Fig. No:	Page 1 of 1

93/11/12 02:36PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-41
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1904+600	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES (20 40 60 80) / PLASTIC M.C. LIQUID (20 40 60 80)	USC	SOIL SYMBOL	PERCENT SAND (20 40 60 80) / PERCENT GRAVEL (20 40 60 80)	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
	WELL-GRADED GRAVEL (GW)							
	-hard grindy drilling							
1.0	-may be frozen	☒	105	▲	GW		◆ ■	1.0
2.0								2.0
3.0								3.0
4.0								4.0
5.0	-frozen below 5.1m							5.0
	-wet below 5.6m							
6.0	-very slow grindy drilling below 5.6m							6.0
7.0								7.0
8.0	-smooth slow drilling below 8.0m							8.0
9.0								9.0
	END HOLE at 9.3m							
10.0								10.0

Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 9.3 m
	REVIEWED BY:	COMPLETE: 93/09/08
	Fig. No:	Page 1 of 1

93/11/10 03:35PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-41
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1904+600	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ☐ S.P.T. ☒ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
6.5								6.5
7.5								7.5
	-smooth slow drilling below 8.0m							
8.5								8.5
	END HOLE at 9.3m							
9.5								9.5
10.5								10.5
11.5								11.5
12.5								12.5

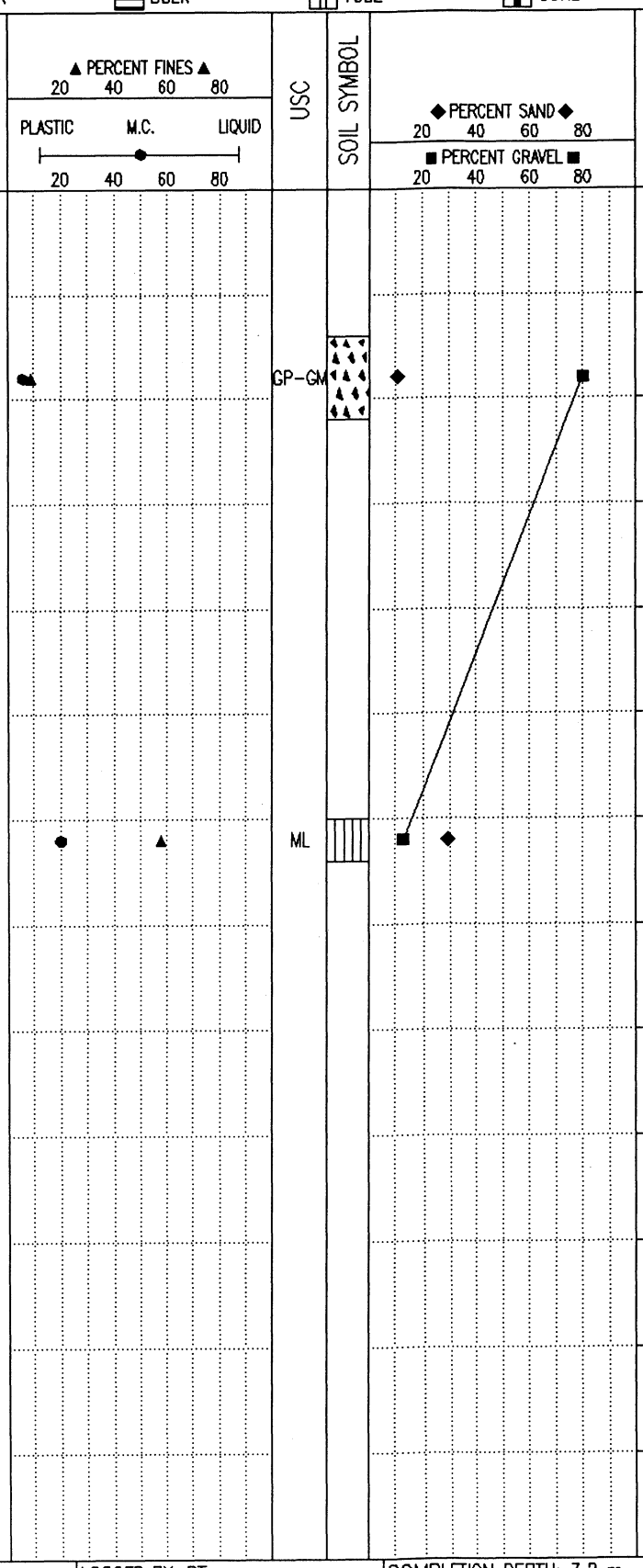
Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 9.3 m
	REVIEWED BY:	COMPLETE: 93/09/08
	Fig. No:	Page 2 of 2

93/11/05 11:48AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 257-33
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1904+600	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	ORGANIC SILT			
	POORLY GRADED GRAVEL WITH SILT (GP-GM) -brown -frozen with visible ice (Vc) -maximum 100mm material		80	GP-GM
3.0	SANDY SILT (ML) -frozen with visible ice (Vx)		81	ML
	END HOLE at 3.2m -at hole 245-41			



Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 3.2 m
	REVIEWED BY:	COMPLETE: 93/10/02
	Fig. No:	Page 1 of 1

93/10/28 10:20AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-42
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1904+640	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ☐ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
	SILTY SAND -some pebbles							
1.0	SILTY GRAVEL -grindy drilling -smooth drilling below 1.3m							1.0
2.0	-frozen below 1.9m -grindy drilling below 2.0m							2.0
3.0								3.0
4.0	END HOLE at 3.9m							4.0
5.0								5.0
6.0								6.0

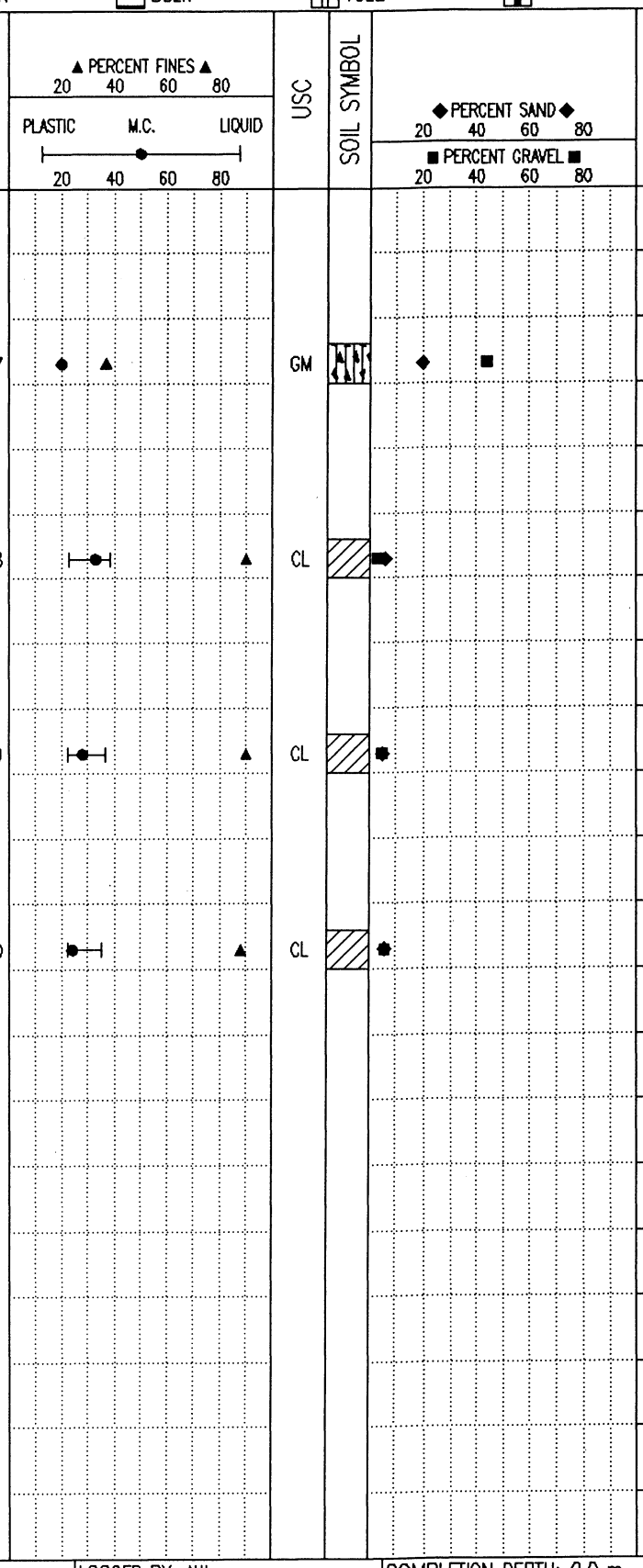
Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 3.9 m
	REVIEWED BY:	COMPLETE: 93/09/09
	Fig. No:	Page 1 of 1

93/11/05 11:49AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-65
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1904+725	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
1.0	SILTY GRAVEL WITH SAND (GM) -light brown -frozen with visible ice (Vx) -easy drilling	AUGER	157	GM
2.0				
3.0	LEAN CLAY (CL) -gray -frozen with visible ice (Vx) -easy drilling	AUGER	158	CL
4.0		AUGER	159	CL
5.0				
6.0		AUGER	160	CL
7.0				
8.0				
9.0	END HOLE at 9.0m -spruce cover			
10.0				



Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 9.0 m
	REVIEWED BY:	COMPLETE: 92/08/07
	Fig. No:	Page 1 of 1

93/11/12 02:33PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-64
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1904+825	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
1.0	SANDY SILT WITH GRAVEL (ML) -light brown -frozen with visible ice (Vx)	AUGER	153	ML	
2.0	SILTY GRAVEL WITH SAND (GM) -light brown -frozen with visible ice (Vx)	AUGER	154	GM	
3.0					
4.0		AUGER	155	GM	
5.0					
6.0	END HOLE at 6.0m -swamp and spruce cover	AUGER	156	GM	

Plot scales: ▲ PERCENT FINES ▲ 20 40 60 80; PLASTIC M.C. LIQUID 20 40 60 80; ◆ PERCENT SAND ◆ 20 40 60 80; ■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 6.0 m
	REVIEWED BY:	COMPLETE: 92/08/07
	Fig. No:	Page 1 of 1

93/11/12 02:32PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-63
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1904+925	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
1.0	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -dry -hard drilling	AUGER	151	GW-GM	
2.0	SILTY GRAVEL WITH SAND (GM) -brown -damp	AUGER	152	GM	
3.0	END HOLE at 3.1m -refusal -spruce and willow cover				
4.0					
5.0					
6.0					

Plot: ▲ PERCENT FINES ▲ (20 40 60 80); PLASTIC — M.C. — LIQUID (20 40 60 80); ◆ PERCENT SAND ◆ (20 40 60 80); ■ PERCENT GRAVEL ■ (20 40 60 80)

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 3.1 m
	REVIEWED BY:	COMPLETE: 92/08/06
	Fig. No:	Page 1 of 1

93/11/12 02:30PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-62
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1905+050	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES (20 40 60 80) / PLASTIC M.C. LIQUID (20 40 60 80)	USC	SOIL SYMBOL	PERCENT SAND / PERCENT GRAVEL (20 40 60 80)	DEPTH (m)
0.0	ORGANIC MATERIAL AND ROAD FILL							0.0
1.0	POORLY GRADED GRAVEL WITH SAND (GP) -brown -dry -hard drilling	AUGER	149		GP			1.0
2.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -dry	AUGER	150		GP-GM			2.0
3.0								3.0
4.0	SILTY GRAVEL WITH SAND (GM) -brown -moist	AUGER	151		GM			4.0
	END HOLE at 4.5m							
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/06
	Fig. No:	Page 1 of 1

93/11/12 02:29PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-61
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101 0303
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1905+150	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES (20 40 60 80) / PLASTIC M.C. LIQUID (20 40 60 80)	USC	SOIL SYMBOL	PERCENT SAND / PERCENT GRAVEL (20 40 60 80)	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -dry -hard drilling							
1.0								1.0
			146		GP-GM			
2.0								2.0
			147		GP-GM			
3.0								3.0
	-moist below 3.3m							
4.0								4.0
			148		GP-GM			
	END HOLE at 4.5m -small willow cover							
5.0								5.0
6.0								6.0

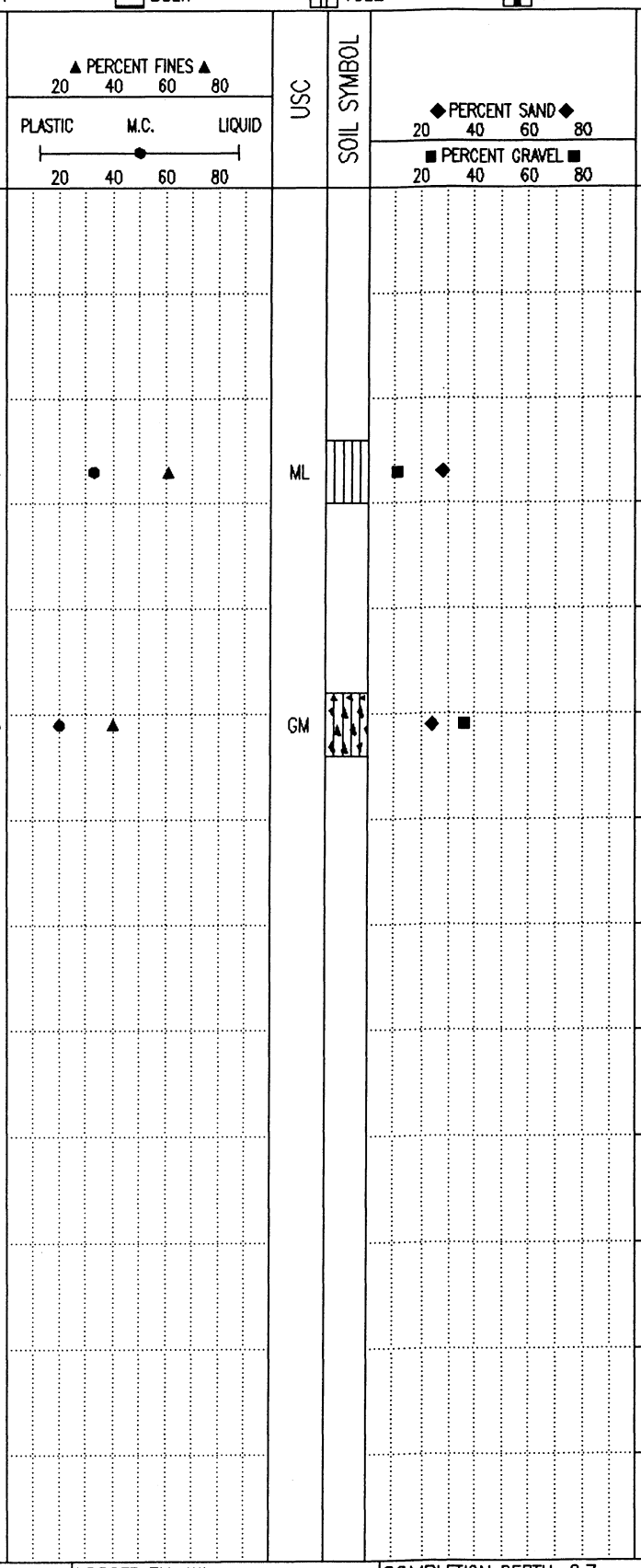
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/06
	Fig. No:	Page 1 of 1

93/11/12 02:27PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-60
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: STA 1905+300 o/s 7m Lt	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
1.0	SANDY SILT (ML) -dark brown -damp -organic	AUGER	144	ML	
2.0	SILTY GRAVEL WITH SAND (GM) -dark brown -wet -organic -refusal at 2.4m	AUGER	145	GM	
3.0	END HOLE at 2.7m -refusal -spruce and willow cover				
4.0					
5.0					
6.0					



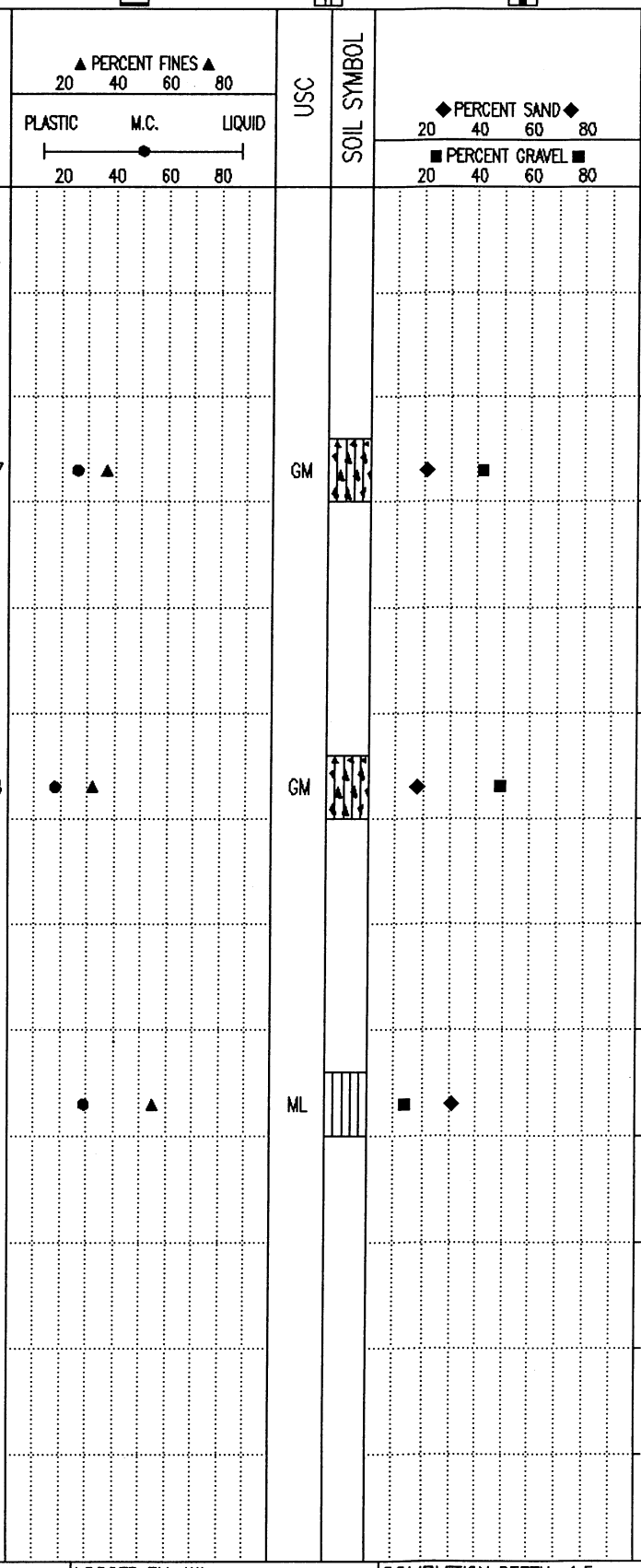
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 2.7 m
	REVIEWED BY:	COMPLETE: 92/08/06
	Fig. No:	Page 1 of 1

93/11/12 02:26PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-50
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: See Plan	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
1.0	SILTY GRAVEL WITH SAND (GM) -gray -frozen with visible ice (Vx) -refusal at 1.5m	AUGER	117	GM	
2.0					
3.0		AUGER	118	GM	
4.0					
	ICE WITH SANDY SILT (ML)	AUGER	119	ML	
	END HOLE at 4.5m -spruce and swamp cover				
5.0					
6.0					



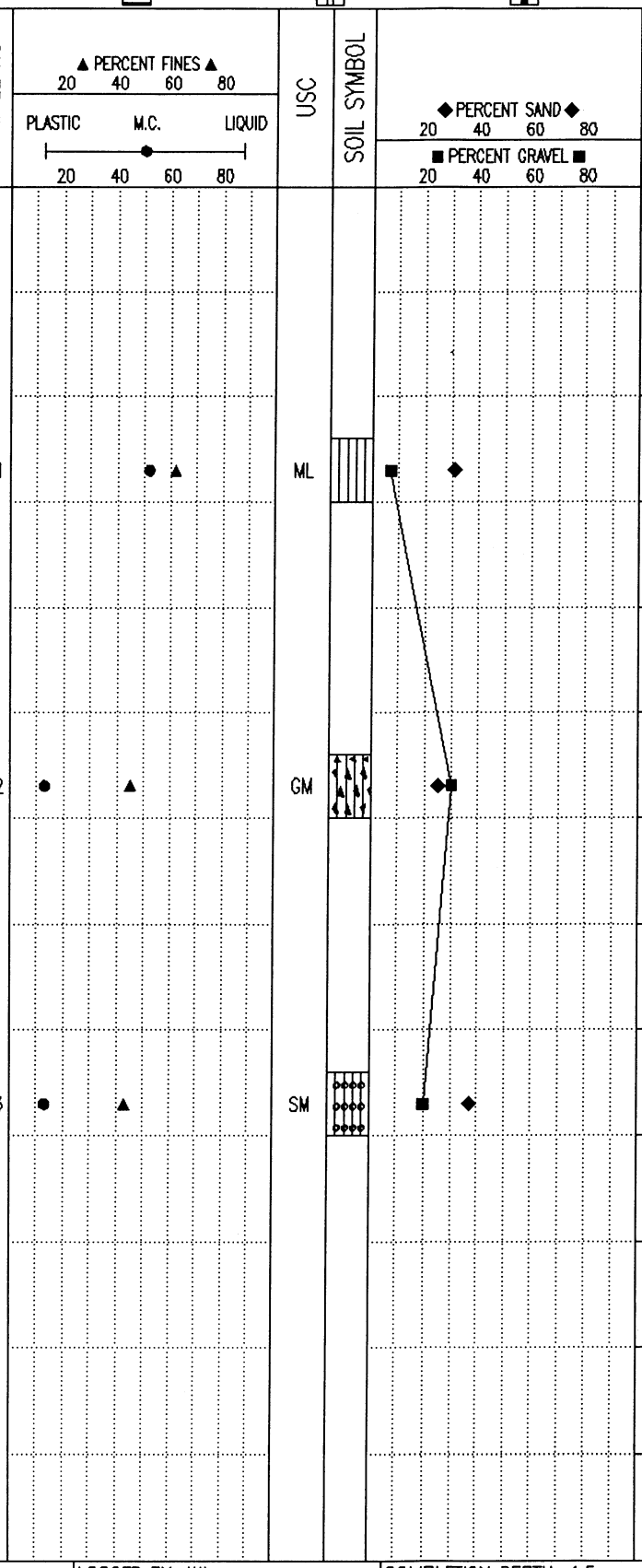
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/06
	Fig. No:	Page 1 of 1

93/12/10 03:27PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-59
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: See Plan	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL AND ROAD FILL			
	SANDY SILT (ML) -dark brown -moist -organic	AUGER	141	ML
1.0				
2.0	SILTY GRAVEL WITH SAND (GM) -light brown -moist -hard drilling	AUGER	142	GM
3.0				
	SILTY SAND WITH GRAVEL (SM) -light brown -moist	AUGER	143	SM
4.0				
	END HOLE at 4.5m -in ditch			
5.0				
6.0				



Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/06
	Fig. No:	Page 1 of 1

93/10/04 01:33PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 244-00
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1905+600 o/s 15m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	LEAN CLAY WITH SAND (CL) -frozen with visible ice				
1.0		AUGER	1	CL	
2.0	LEAN CLAY (CL)				
3.0		AUGER	2	CL	
4.0					
5.0	SANDY SILT -some stones				
6.0	-cobbles below 6.0m				
7.0					
8.0	END HOLE at 8.2m -refusal				
9.0					
10.0					

Plot: ▲ PERCENT FINES (20 40 60 80); PLASTIC — M.C. — LIQUID (20 40 60 80); ◆ PERCENT SAND (20 40 60 80); ■ PERCENT GRAVEL (20 40 60 80)

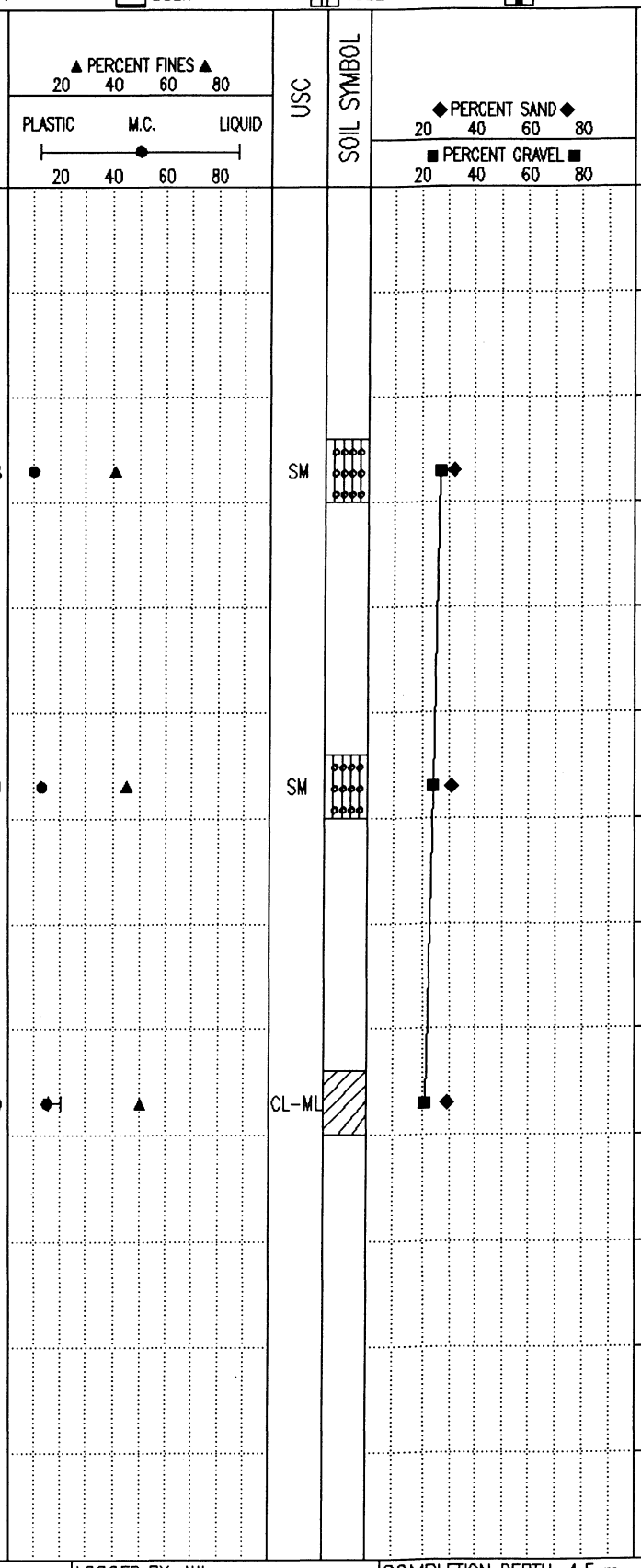
Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 8.2 m
	REVIEWED BY:	COMPLETE: 93/09/01
	Fig. No:	Page 1 of 1

93/09/23 03:45PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-58
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: See Plan	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL AND ROAD FILL			
	SILTY SAND WITH GRAVEL (SM) -light brown -damp -hard drilling			
1.0		AUGER	138	SM
2.0				
3.0		AUGER	139	SM
	SANDY SILTY CLAY WITH GRAVEL (CL-ML) -light brown -saturated			
4.0		AUGER	140	CL-ML
	END HOLE at 4.5m -in ditch			
5.0				
6.0				



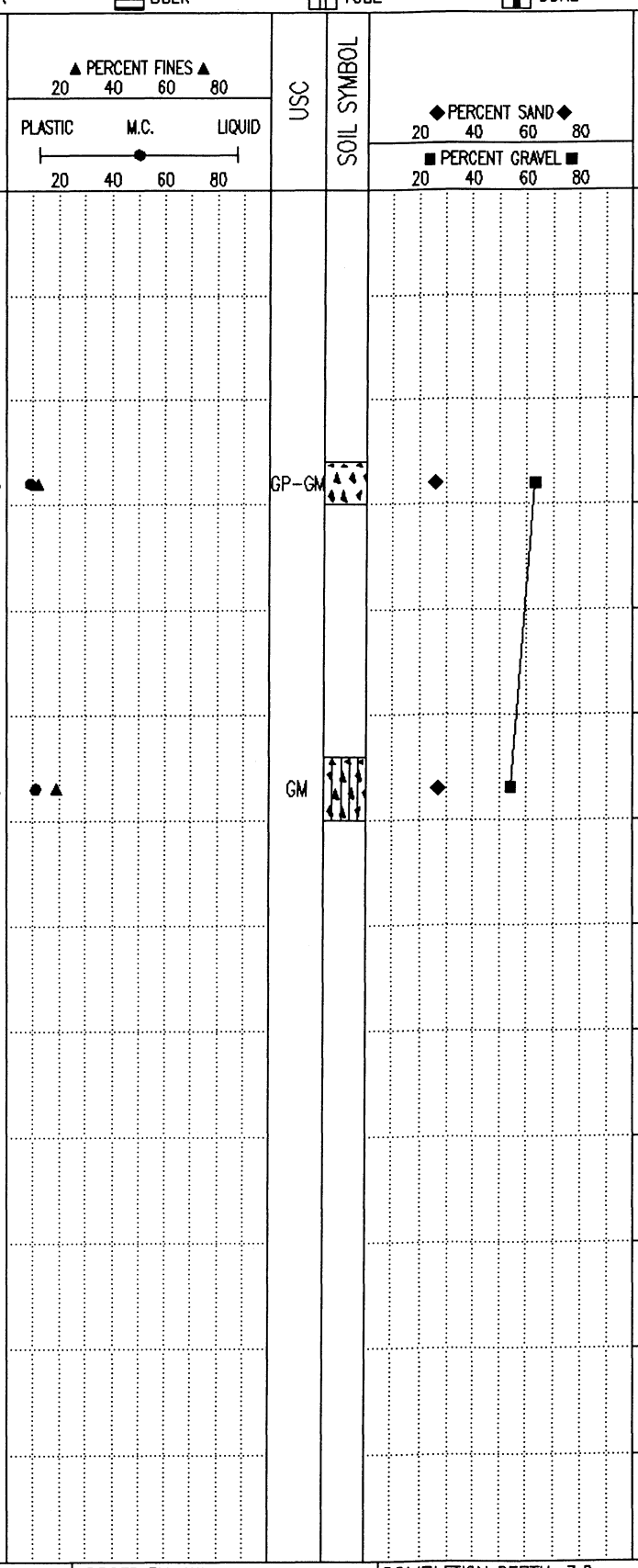
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/06
	Fig. No:	Page 1 of 1

93/10/04 01:45PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-49
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: See Plan	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -frozen with visible ice (Vx) -hard drilling				
1.0		AUGER	115	GP-GM	
2.0	SILTY GRAVEL WITH SAND (GM) -light brown -frozen with visible ice (Vx)				
		AUGER	116	GM	
3.0	END HOLE at 3.0m -refusal -spruce, poplar, swampy cover				
4.0					
5.0					
6.0					



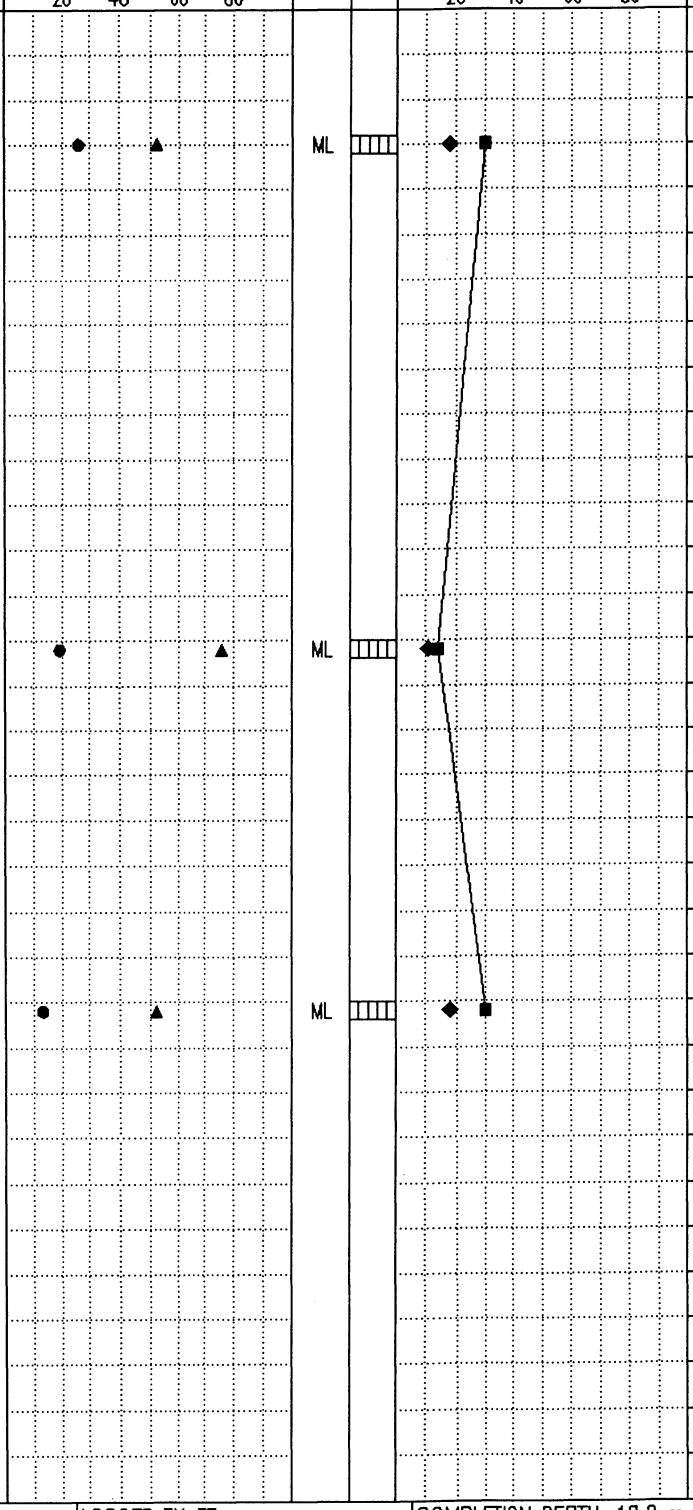
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 3.0 m
	REVIEWED BY:	COMPLETE: 92/06/22
	Fig. No:	Page 1 of 1

93/10/04 01:36PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 244-01
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1905+675 o/s 15m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	GRAVELLY SILT WITH SAND TO SILT WITH GRAVEL (ML)				
1.0	-brown	AUGER	3	ML	TUBE
	-wet				
2.0	-frozen with visible ice below 1.5m				
	-smooth drilling below 1.5m				
3.0					
4.0					
	-grinding action at 4.2m				
5.0	-smooth drilling below 4.8m				
6.0					
	-grinding action below 6.2m				
7.0		AUGER	4	ML	TUBE
8.0	-smooth drilling below 7.8m				
9.0	-grinding action below 8.6m				
10.0	-smooth drilling below 9.8m				
11.0		AUGER	5	ML	TUBE
	-grinding action below 11.5m				
12.0	END HOLE at 12.2m				
	-refusal				
13.0					
14.0					
15.0					
16.0					



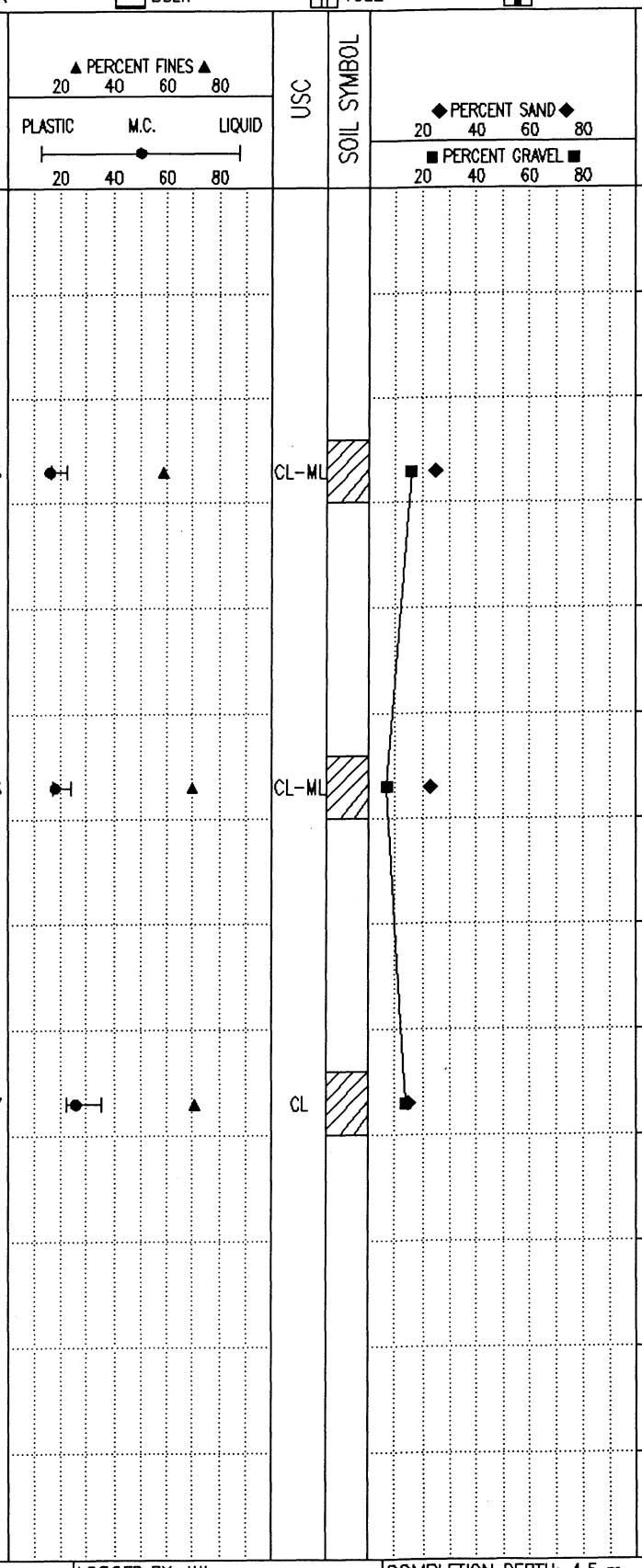
Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 12.2 m
	REVIEWED BY:	COMPLETE: 93/09/01
	Fig. No:	Page 1 of 1

93/09/30 09:42AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-57
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: See Plan	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL AND ROAD FILL				
	SANDY SILTY CLAY WITH GRAVEL (CL-ML) -light brown -damp -easy drilling				
1.0		AUGER	135	CL-ML	
2.0	SANDY SILTY CLAY (CL-ML) -light brown -damp				
3.0		AUGER	136	CL-ML	
4.0	LEAN CLAY WITH SAND (CL) -light brown -frozen with visible ice (Vx)	AUGER	137	CL	
	END HOLE at 4.5m -in ditch				
5.0					
6.0					



Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/06
	Fig. No:	Page 1 of 1

93/10/04 01:44PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-48
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: See Plan	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES (20 40 60 80) / PLASTIC M.C. LIQUID (20 40 60 80)	USC	SOIL SYMBOL	PERCENT SAND (20 40 60 80) / PERCENT GRAVEL (20 40 60 80)	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
	SILT (ML) -brown -frozen with visible ice crystals (Vx) -easy drilling							
1.0		AUGER	112		ML			1.0
2.0								2.0
		AUGER	113		ML			
3.0								3.0
	GRAVELLY SILT WITH SAND (ML) -hard drilling							
4.0		AUGER	114		ML			4.0
	END HOLE at 4.5m -spruce cover							
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/06/10
	Fig. No:	Page 1 of 1

93/10/04 02:04PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 244-02
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1905+750 o/s 15m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL -frozen				
1.0	SILTY GRAVEL (GM)				
2.0		AUGER	6	GM	
	LEAN CLAY (CL) -gray -frozen with visible ice -smooth drilling				
3.0					
4.0					
5.0					
6.0					
7.0					
8.0					
9.0		AUGER	7	CL	
10.0					
11.0					
12.0					
13.0	END HOLE at 13.0m				
14.0					
15.0					
16.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 13.0 m
	REVIEWED BY:	COMPLETE: 93/09/01
	Fig. No:	Page 1 of 1

93/09/30 08:41AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-56
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: See Plan	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES (20 40 60 80) / PLASTIC M.C. LIQUID (20 40 60 80)	USC	SOIL SYMBOL	PERCENT SAND (20 40 60 80) / PERCENT GRAVEL (20 40 60 80)	DEPTH (m)
0.0	ORGANIC MATERIAL AND ROAD FILL							0.0
	LEAN CLAY (CL) -light brown -dry -easy drilling							
1.0		AUGER	132		CL			1.0
2.0	-water at 2.1m							2.0
	SILT (ML) -gray -damp							
3.0		AUGER	133		ML			3.0
	FAT CLAY (CH) -light brown -frozen with visible ice (Vx)							
4.0		AUGER	134		CH			4.0
	END HOLE at 4.5m -in ditch							
5.0								5.0
6.0								6.0

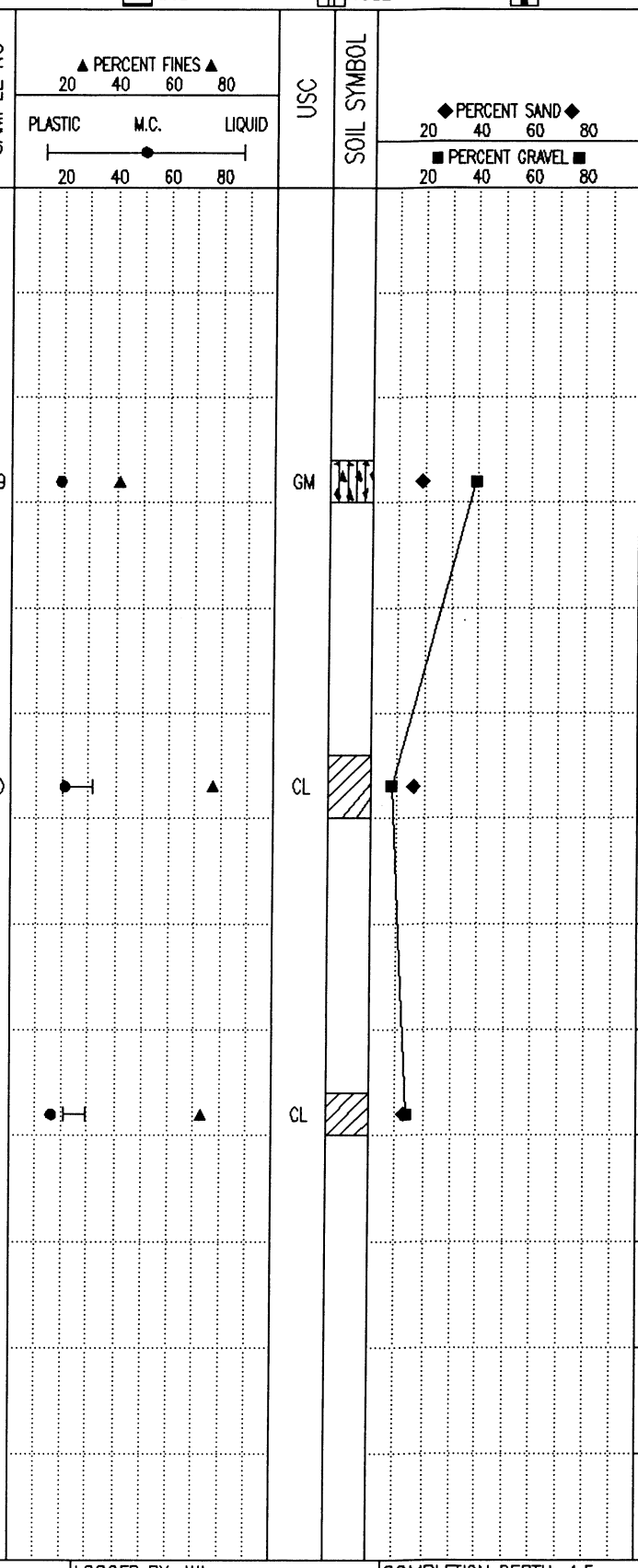
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/06
	Fig. No:	Page 1 of 1

93/10/04 01:42PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-47
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: See Plan	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILTY GRAVEL WITH SAND (GM) –frozen with visible ice crystals (Vx)				
1.0		AUGER	109	GM	
2.0	LEAN CLAY WITH SAND (CL) –gray –frozen with visible ice crystals (Vx) –easy drilling				
3.0		AUGER	110	CL	
	LEAN CLAY WITH GRAVEL (CL) –frozen with visible ice crystals (Vx) –maximum 40mm material augered up –hard drilling				
4.0		AUGER	111	CL	
	END HOLE at 4.5m –spruce cover				
5.0					
6.0					



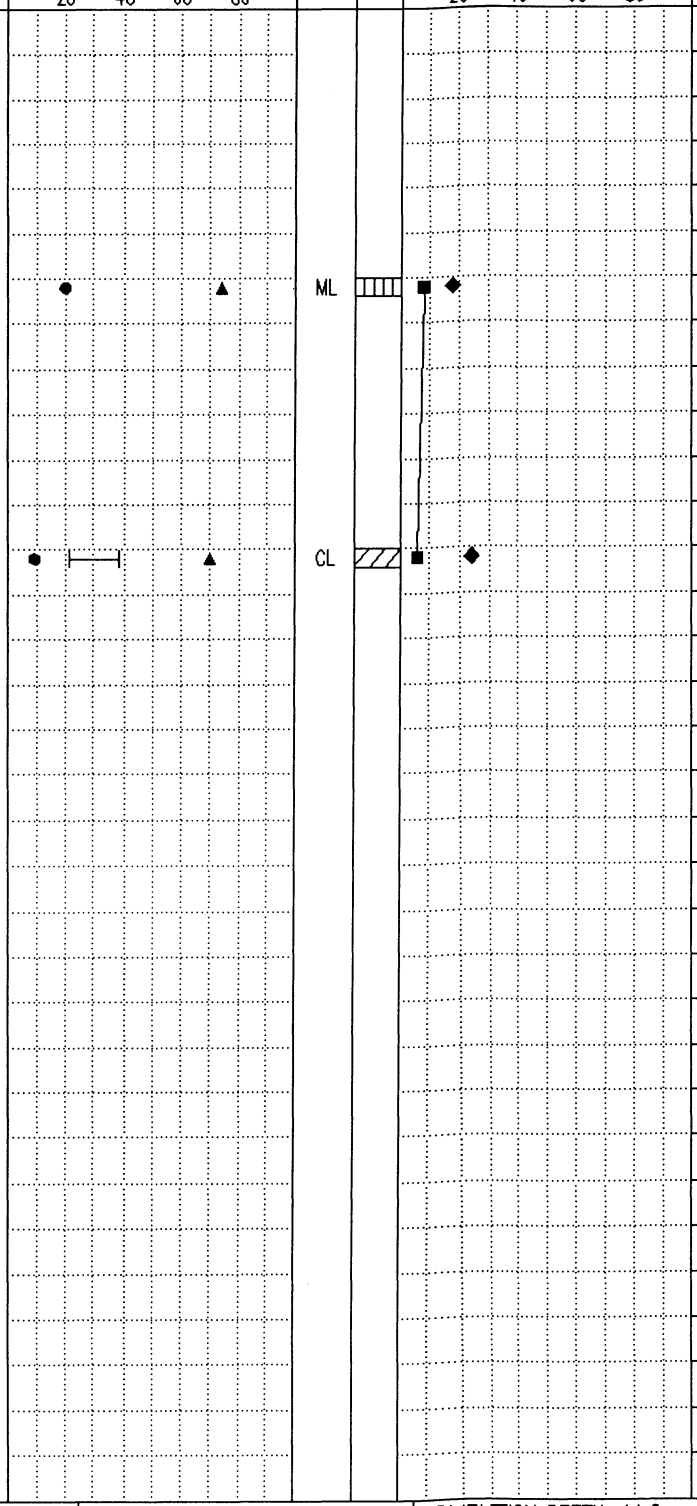
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/06/10
	Fig. No:	Page 1 of 1

93/10/04 02:03PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 244-03
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1905+825 o/s 15m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL -frozen with visible ice				
1.0					
2.0	SILT WITH SAND (ML) -brown -frozen -smooth drilling -grinding action, visible ice below 3.0m				
3.0		AUGER	8	ML	
4.0					
5.0	SANDY LEAN CLAY (CL) -gray -frozen -smooth drilling				
6.0		AUGER	9	CL	
7.0					
8.0					
9.0					
10.0					
11.0	END HOLE at 11.0m				
12.0					
13.0					
14.0					
15.0					
16.0					



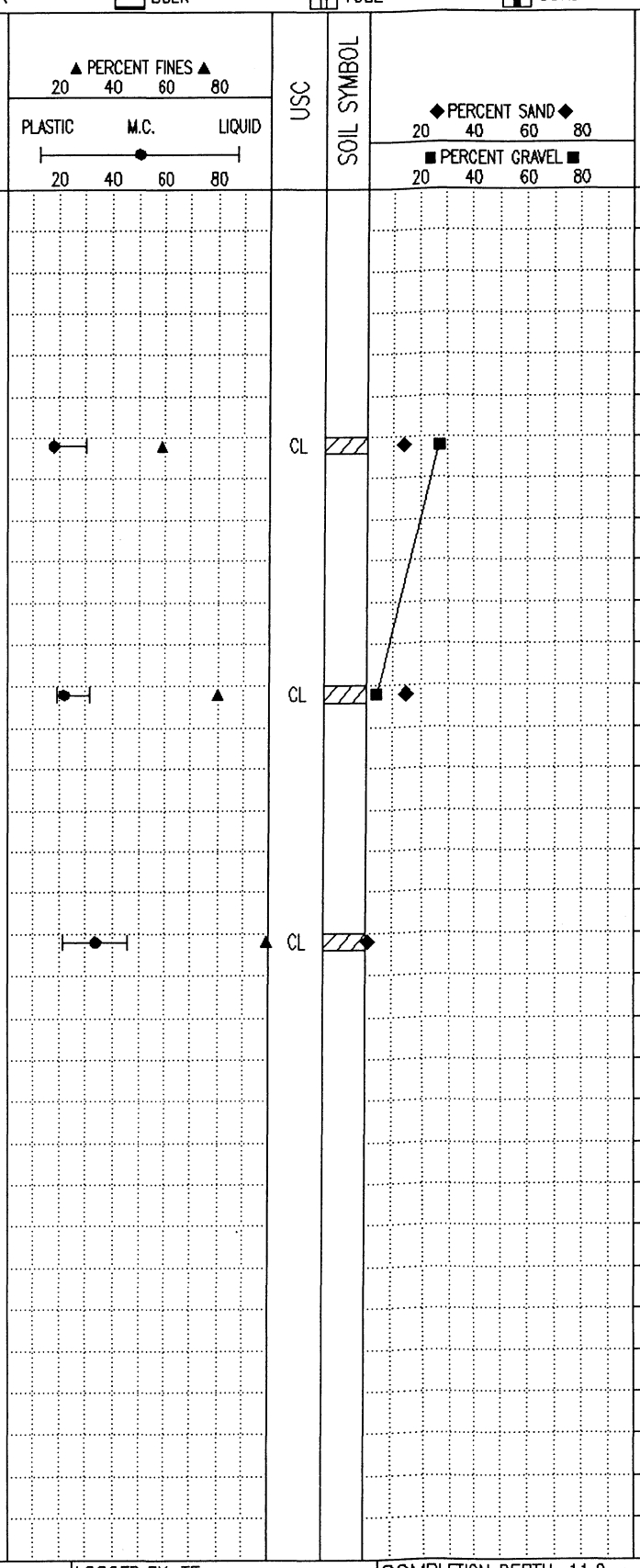
Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 11.0 m
	REVIEWED BY:	COMPLETE: 93/09/01
	Fig. No:	Page 1 of 1

93/09/30 08:43AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 244-04
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1905+900 o/s 15m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL -frozen				
1.0	GRAVELLY LEAN CLAY (CL) -brown -frozen -grinding action -smooth drilling below 2.2m				
2.0					
3.0	-grinding action below 3.2m	AUGER	10	CL	
4.0	LEAN CLAY WITH SAND (CL) -gray -frozen -smooth drilling				
5.0					
6.0		AUGER	11	CL	
7.0					
8.0	-visible ice below 7.6m				
9.0	LEAN CLAY (CL) -brown -frozen with visible ice -smooth drilling	AUGER	12	CL	
10.0					
11.0	END HOLE at 11.0m				
12.0					
13.0					
14.0					
15.0					
16.0					



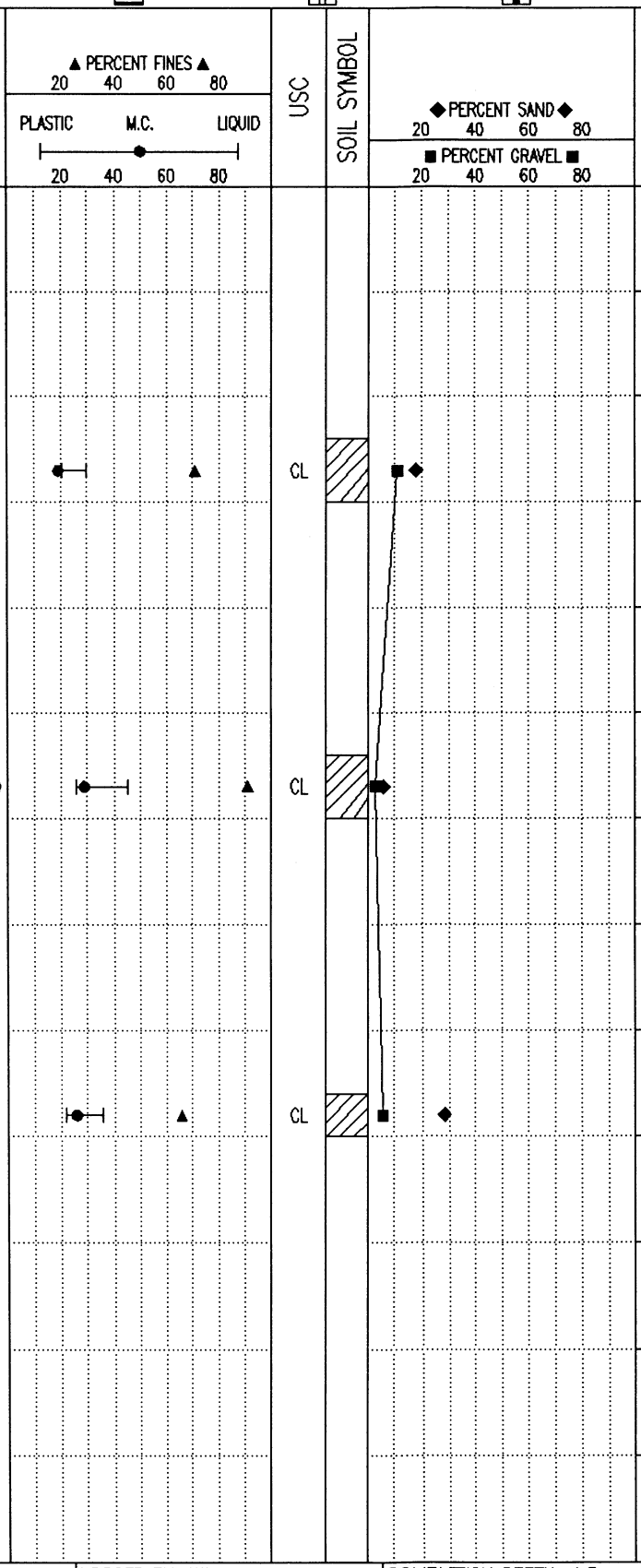
Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 11.0 m
	REVIEWED BY:	COMPLETE: 93/09/01
	Fig. No:	Page 1 of 1

93/10/04 10:31AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-55
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: See Plan	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	LEAN CLAY WITH SAND (CL) -brown -moist -easy drilling				
1.0		AUGER	129	CL	
2.0					
	LEAN CLAY (CL) -gray -moist	AUGER	130	CL	
3.0					
4.0	SANDY LEAN CLAY (CL) -damp -water below 3.9m	AUGER	131	CL	
	END HOLE at 4.5m -spruce and willow cover				
5.0					
6.0					



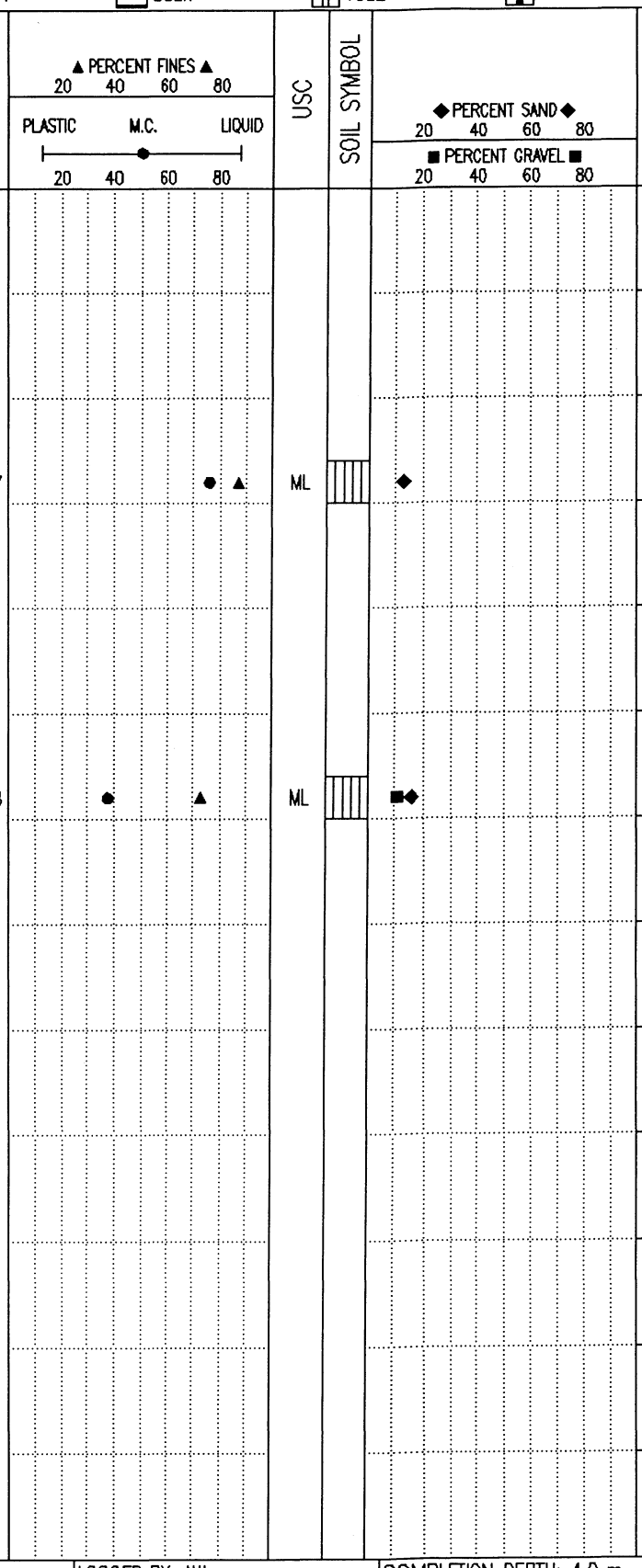
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/06
	Fig. No:	Page 1 of 1

93/10/04 01:41PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-46
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: See Plan	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
1.0	SILT (ML) -gray -frozen with visible ice crystals (Vx) -easy drilling	AUGER	107	ML	
2.0					
3.0	SILT WITH SAND (ML) -gray -frozen (Nb)	AUGER	108	ML	
4.0	GRAVEL -maximum 50mm material augered up -hard drilling END HOLE at 4.0m -small spruce cover				
5.0					
6.0					



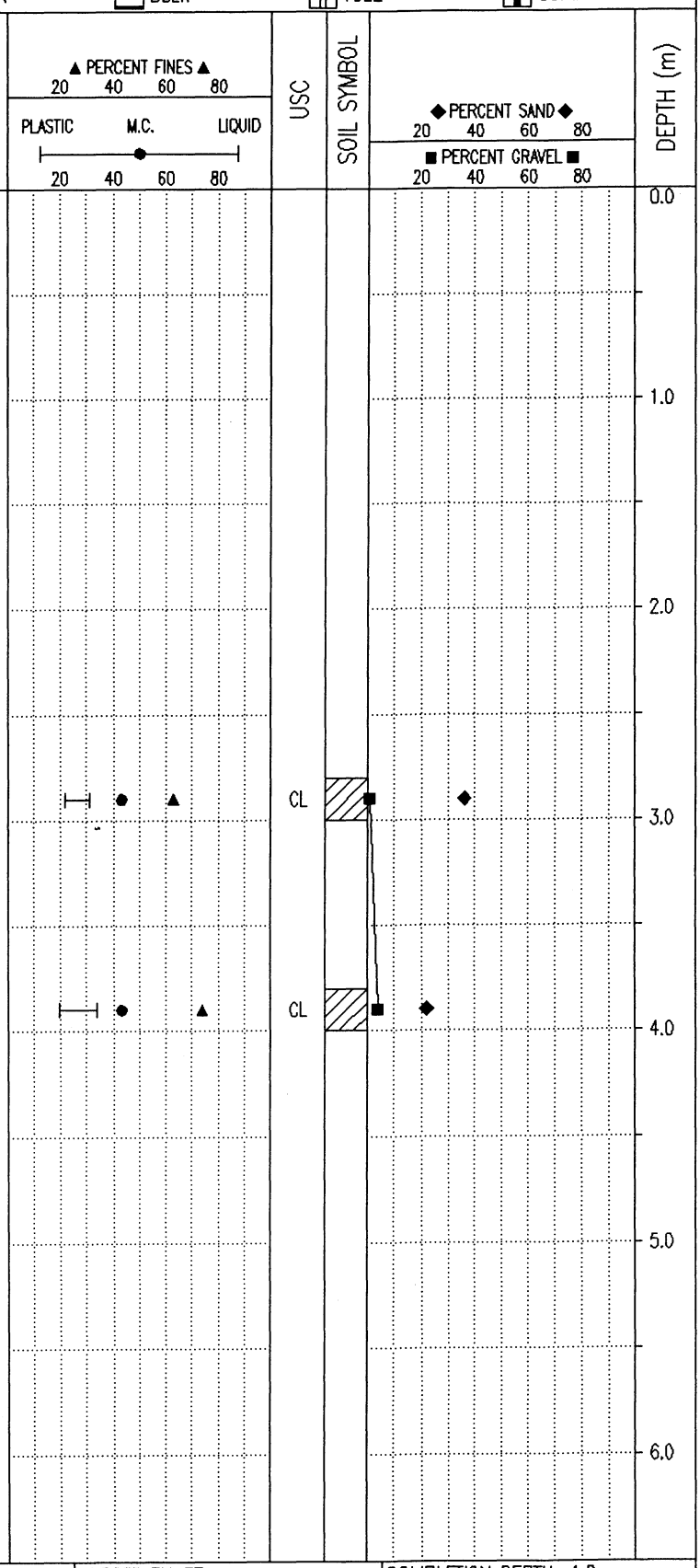
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.0 m
	REVIEWED BY:	COMPLETE: 92/06/10
	Fig. No:	Page 1 of 1

93/10/04 02:01PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 244-05
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1905+975 o/s 15m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL -frozen			
1.0	ICE -smooth drilling			
2.0	SANDY LEAN CLAY (CL) -brown -grinding drilling -frozen -smooth drilling below 2.6m	AUGER	13	CL
3.0	LEAN CLAY WITH SAND (CL) -brown -frozen with visible ice	AUGER	14	CL
4.0	END HOLE at 4.0m			
5.0				
6.0				



Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 4.0 m
	REVIEWED BY:	COMPLETE: 93/09/01
	Fig. No:	Page 1 of 1

93/09/30 08:46AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-54
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: See Plan	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
	LEAN CLAY WITH SAND (CL) -brown -frozen with visible ice (Vx)							
1.0			128		CL			1.0
	-first refusal at 1.8m							
2.0	END HOLE at 2.0m -refusal -spruce and swamp cover							2.0
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 2.0 m
	REVIEWED BY:	COMPLETE: 92/08/06
	Fig. No:	Page 1 of 1

93/10/04 01:39PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-45
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: See Plan	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES (20 40 60 80) / PLASTIC M.C. LIQUID (20 40 60 80)	USC	SOIL SYMBOL	PERCENT SAND (20 40 60 80) / PERCENT GRAVEL (20 40 60 80)	DEPTH (m)
0.0	ORGANIC CLAY -frozen (Nf)							0.0
1.0	ICE AND ORGANIC MATERIAL	AUGER	106		OL			1.0
	END HOLE at 1.7m -refusal -small spruce cover							
2.0								2.0
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 1.7 m
	REVIEWED BY:	COMPLETE: 92/06/10
	Fig. No:	Page 1 of 1

93/10/04 02:00PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-53
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: See Plan	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILT WITH SAND (ML) -brown -frozen with visible ice (Vx)	AUGER	126	ML	
	ICE WITH SOIL				
	LEAN CLAY (CL) -gray -frozen with visible ice (Vx)	AUGER	127	CL	
	END HOLE at 4.5m -spruce and swamp cover				

Depth scale: 0.0, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0

Plot columns: ▲ PERCENT FINES ▲ (20 40 60 80); PLASTIC M.C. LIQUID (20 40 60 80); ◆ PERCENT SAND ◆ (20 40 60 80); ■ PERCENT GRAVEL ■ (20 40 60 80)

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/08/06
	Fig. No:	Page 1 of 1

93/10/04 01:38PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-44
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: See Plan	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC MATERIAL –frozen with visible ice lenses (Vr)							0.0
1.0	ICE							1.0
2.0	END HOLE at 2.2m –small spruce cover							2.0
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 2.2 m
	REVIEWED BY:	COMPLETE: 92/06/10
	Fig. No:	Page 1 of 1

93/10/04 01:58PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-52
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: See Plan	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES (20 40 60 80) / PLASTIC M.C. LIQUID (20 40 60 80)	USC	SOIL SYMBOL	PERCENT SAND (20 40 60 80) / PERCENT GRAVEL (20 40 60 80)	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
1.0	SILT (ML) -light brown -frozen (Nb)	AUGER	123		ML			1.0
2.0	LEAN CLAY (CL) -light brown	AUGER	124		CL			2.0
3.0	SILT (ML) -gray	AUGER	125		ML			3.0
4.0	3END HOLE at 4.5m -willow, spruce and poplar cover							4.0
5.0								5.0
6.0								6.0

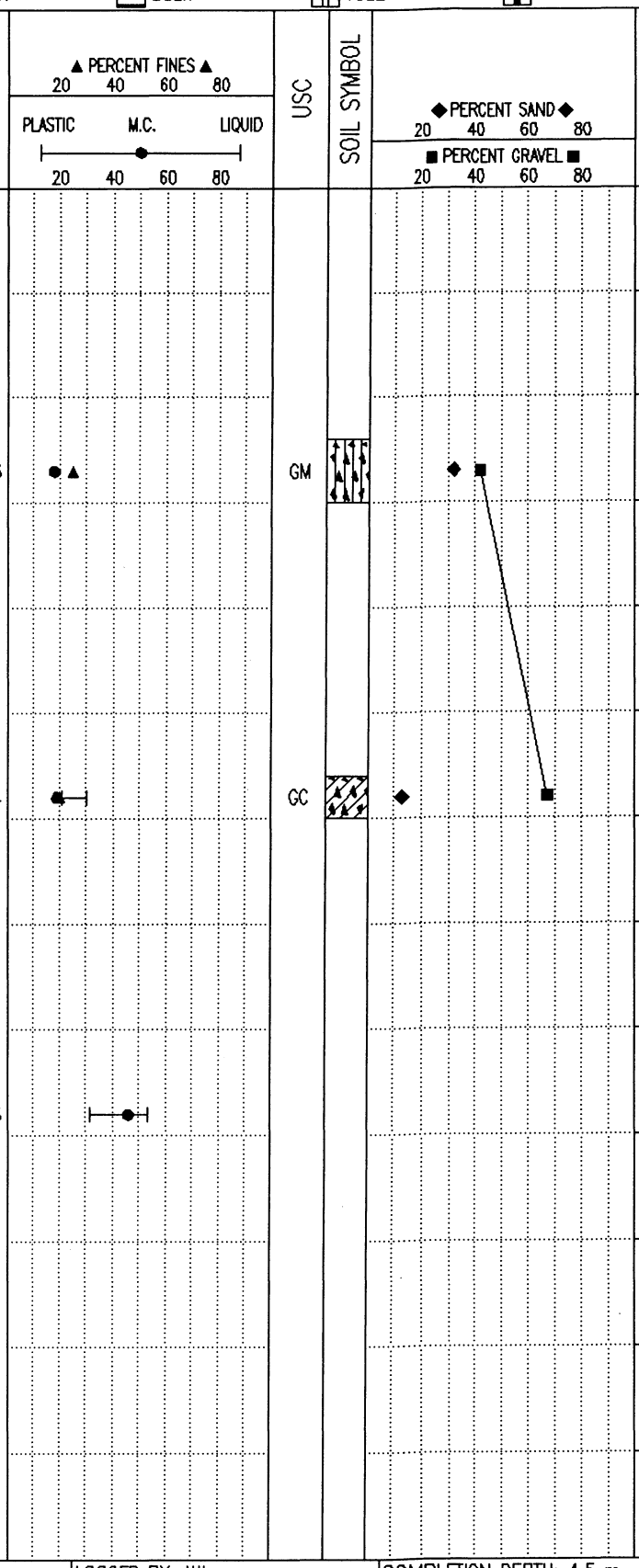
Government of Yukon Transportation Engineering	LOGGED BY: AW REVIEWED BY: Fig. No:	COMPLETION DEPTH: 4.5 m COMPLETE: 92/08/06 Page 1 of 1

94/03/28 04:48PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-43
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: See Plan	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ☒ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL –visible ice lenses (Vr)				
	SILTY GRAVEL WITH SAND (GM) –brown –frozen with visible ice crystals (Vx) –hard drilling	☒	103	GM	
	CLAYEY GRAVEL (GC) –brown –frozen (Nb)	☒	104	GC	
	SILTY CLAY –gray –frozen with visible ice crystals (Vx) –easy drilling –sample #105 sieve spilled	☒	105		
	END HOLE at 4.5m –small spruce cover				



Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/06/10
	Fig. No:	Page 1 of 1

93/10/04 01:57PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 194-51
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm Dia. SOLID STEM AUGER	LOCATION: See Plan	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILTY GRAVEL WITH SAND (GM) -light brown -damp -hard drilling	AUGER	120	GM	
1.0					
2.0	-gray below 1.8m -frozen with visible ice (Vx) below 1.8m				
		AUGER	121	GM	
3.0					
4.0		AUGER	122	GM	
	END HOLE at 4.5m -willow and spruce cover				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

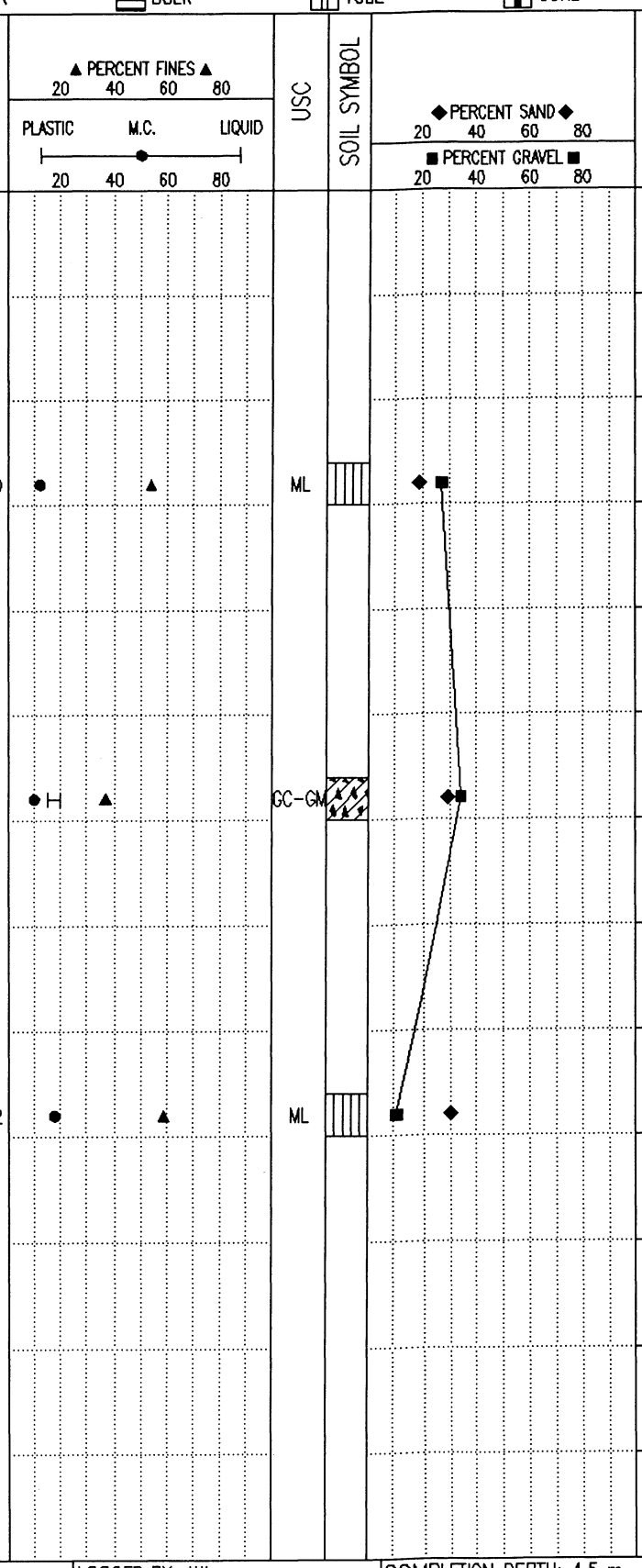
Government of Yukon Transportation Engineering	LOGGED BY: AW REVIEWED BY: Fig. No:	COMPLETION DEPTH: 4.5 m COMPLETE: 92/08/06 Page 1 of 1

94/03/28 04:50PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-42
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: See Plan	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
1.0	GRAVELLY SILT WITH SAND (ML) –brown –moist –hard drilling	AUGER	100	ML	
2.0	SILTY, CLAYEY GRAVEL WITH SAND (GC-GM) –brown –moist	AUGER	101	GC-GM	
3.0					
4.0	SANDY SILT (ML) –gray –frozen (Nb) –easier drilling	AUGER	102	ML	
5.0	END HOLE at 4.5m –poplar and birch cover				
6.0					



Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/06/10
	Fig. No:	Page 1 of 1

93/10/04 01:56PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-41
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA R1906+400 o/s 10m Lt	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC GRAVEL				
	SANDY GRAVEL -brown -moist -easy drilling				
1.0					
	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -moist -maximum 65mm material augered up	AUGER	97	GP-GM	
2.0					
	SILTY SAND WITH GRAVEL (SM) -brown -moist	AUGER	98	SM	
3.0					
	SANDY SILTY CLAY (CL-ML) -brown -moist	AUGER	99	CL-ML	
4.0					
	END HOLE at 4.5m				
5.0					
6.0					

Chart: ▲ PERCENT FINES ▲ 20 40 60 80; PLASTIC M.C. LIQUID 20 40 60 80; ◆ PERCENT SAND ◆ 20 40 60 80; ■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/06/10
	Fig. No:	Page 1 of 1

93/11/12 01:07PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-40
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1906+500 o/s 2m Lt	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	LEAN CLAY WITH SAND (CL) -brown -frozen with visible ice crystals (Vx) -easy drilling	AUGER	94	CL	
1.0					
2.0					
	SILT WITH SAND (ML) -gray -frozen with visible ice lenses (Vr)	AUGER	95	ML	
3.0					
	SILT (ML) -gray -frozen with visible ice lenses (Vr)	AUGER	96	ML	
4.0					
	END HOLE at 4.5m -spruce cover				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

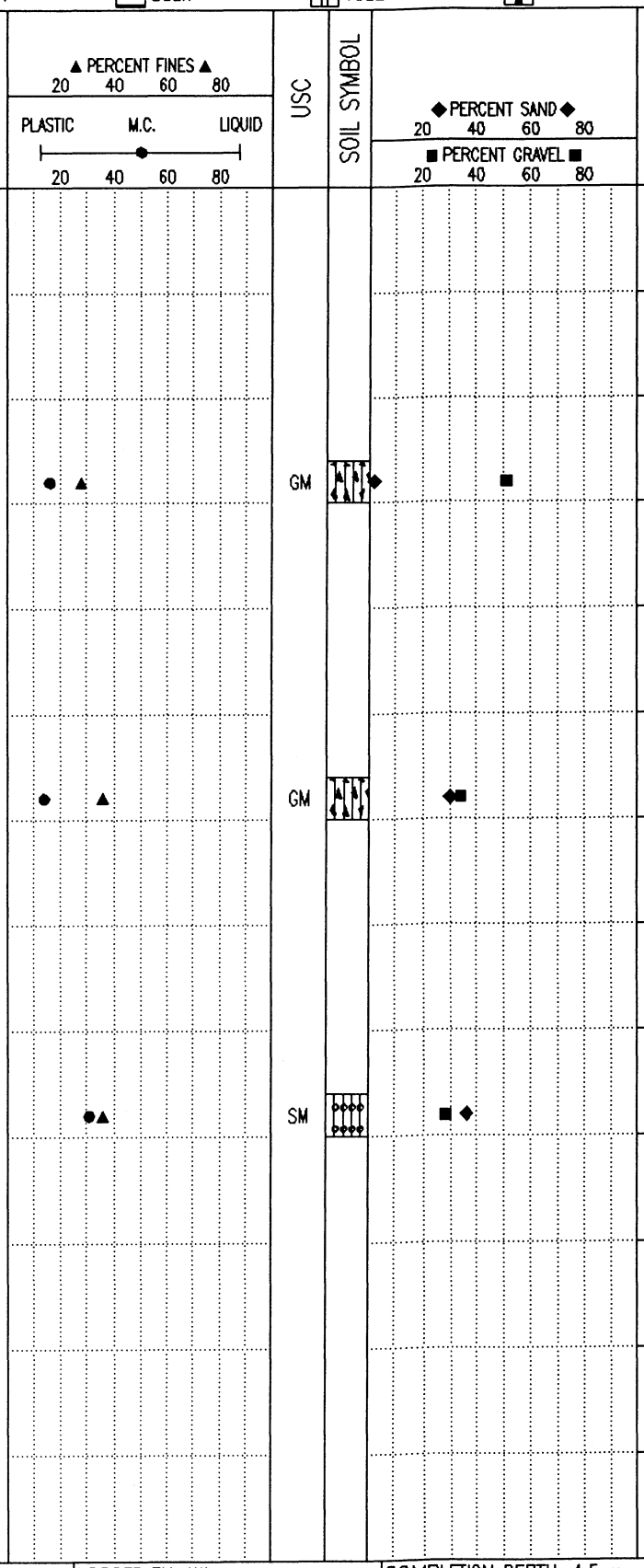
Government of Yukon Transportation Engineering	LOGGED BY: AW REVIEWED BY: Fig. No:	COMPLETION DEPTH: 4.5 m COMPLETE: 92/06/10 Page 1 of 1

93/11/12 01:05PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-39
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1906+600 o/s 3m Lt	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL -frozen (Nb)			
1.0	SILTY GRAVEL WITH SAND (GM) -brown -frozen with visible ice crystals (Vx) -hard drilling	AUGER	91	GM
2.0				
3.0		AUGER	92	GM
	ICE			
4.0	SILTY SAND WITH GRAVEL (SM) -gray -frozen with visible ice crystals (Vx)	AUGER	93	SM
	END HOLE at 4.5m -spruce cover			
5.0				
6.0				



Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/06/10
	Fig. No:	Page 1 of 1

93/11/12 01:04PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-38
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1906+700	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL –frozen with visible ice crystals (Vx)				
1.0	SILTY GRAVEL WITH SAND (GM) –gray –frozen with ice lenses (Vr)	AUGER	88	GM	
2.0	SILTY SAND WITH GRAVEL (SM) –frozen with visible ice lenses (Vr)				
3.0		AUGER	89	SM	
4.0		AUGER	90	SM	
	END HOLE at 4.0m –refusal –spruce cover				
5.0					
6.0					

Plot: ▲ PERCENT FINES (20, 40, 60, 80); PLASTIC – M.C. – LIQUID (20, 40, 60, 80); ◆ PERCENT SAND (20, 40, 60, 80); ■ PERCENT GRAVEL (20, 40, 60, 80)

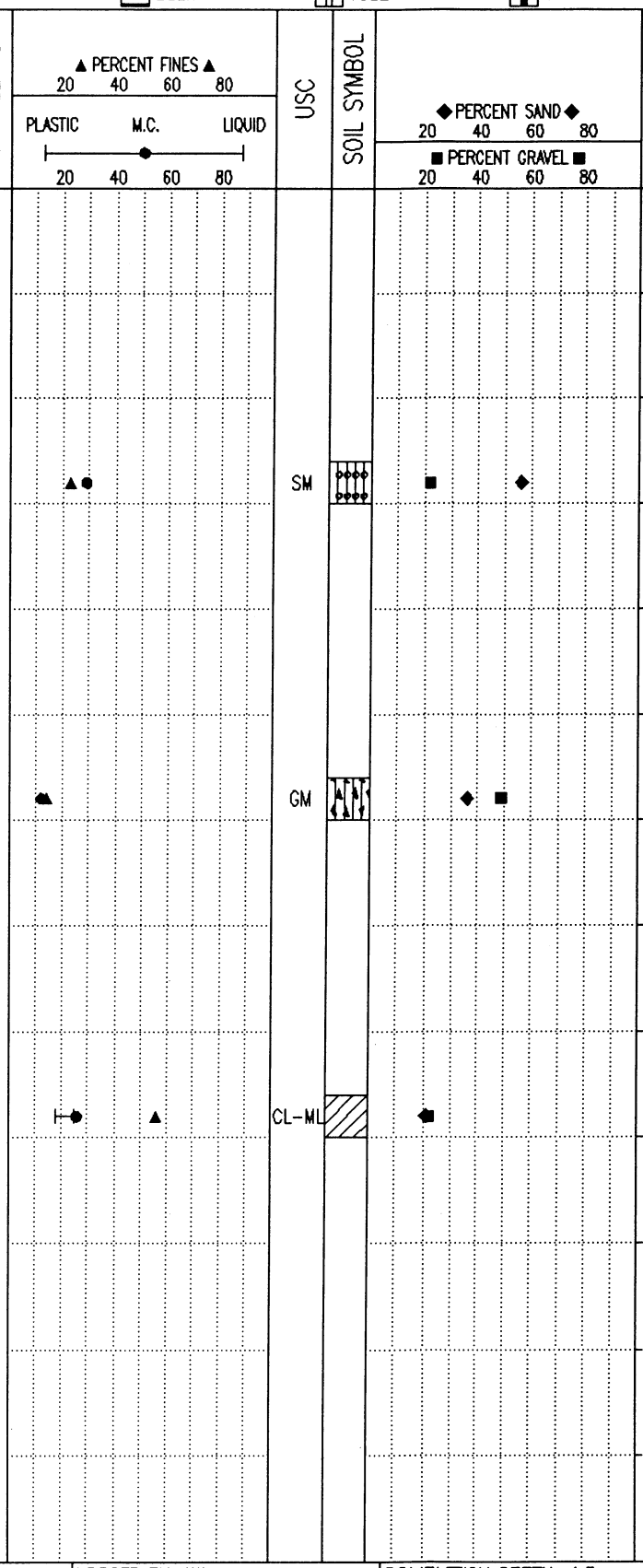
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.0 m
	REVIEWED BY:	COMPLETE: 92/06/09
	Fig. No:	Page 1 of 1

93/11/12 01:02PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-37
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1906+800	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL -easy drilling				
1.0	SILTY SAND WITH GRAVEL (SM) -frozen (Nb)	AUGER	85	SM	
2.0	SILTY GRAVEL WITH SAND (GM) -wet -hard drilling	AUGER	86	GM	
3.0	GRAVELLY SILTY CLAY WITH SAND (CL-ML) -gray -frozen (Nb) -easier drilling	AUGER	87	CL-ML	
4.0	END HOLE at 4.5m -swamp with surface water				
5.0					
6.0					



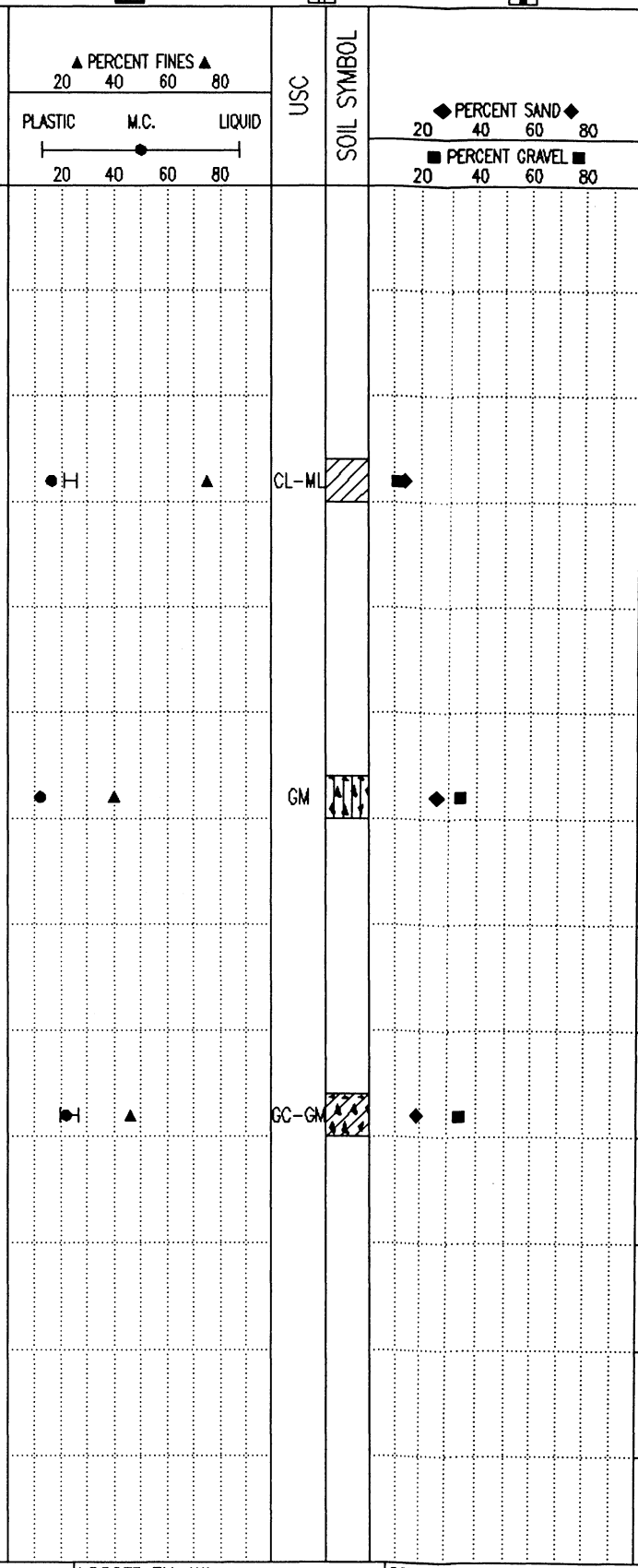
Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/06/09
	Fig. No:	Page 1 of 1

93/11/12 01:01PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-36
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1906+900 o/s 7m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILTY CLAY WITH SAND (CL-ML) -gray -frozen (Nb) -hard drilling				
1.0		AUGER	82	CL-ML	
2.0					
	SILTY GRAVEL WITH SAND (GM) -gray -damp				
3.0		AUGER	83	GM	
	SILTY, CLAYEY GRAVEL WITH SAND (GC-GM) -gray -damp				
4.0		AUGER	84	GC-GM	
	END HOLE at 4.5m				
5.0					
6.0					



Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/06/09
	Fig. No:	Page 1 of 1

93/11/12 12:59PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-35
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1907+000 o/s 14m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES (20 40 60 80) / PLASTIC M.C. LIQUID (20 40 60 80)	USC	SOIL SYMBOL	PERCENT SAND / PERCENT GRAVEL (20 40 60 80)	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
	SILTY GRAVEL WITH SAND (GM) -light brown -moist							
1.0		AUGER	79		GM			1.0
	SILT WITH SAND (ML) -light brown -moist							
2.0								2.0
3.0		AUGER	80		ML			3.0
4.0	SANDY SILT WITH GRAVEL (ML) -gray -damp	AUGER	81		ML			4.0
	END HOLE at 4.5m -spruce cover							
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/06/09
	Fig. No:	Page 1 of 1

93/11/12 12:58PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-34
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1907+100 o/s 3m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL –easy drilling				
1.0	SILTY, CLAYEY GRAVEL WITH SAND (GC-GM) –gray –frozen (Nf)	AUGER	77	GC-GM	
2.0					
3.0	SILTY SAND WITH GRAVEL (SM) –gray –frozen with visible ice crystals (Vx)	AUGER	78	SM	
4.0	ICE				
5.0	END HOLE at 4.5m				
6.0					

Chart: ▲ PERCENT FINES ▲ (20, 40, 60, 80); PLASTIC — M.C. — LIQUID (20, 40, 60, 80); ◆ PERCENT SAND ◆ (20, 40, 60, 80); ■ PERCENT GRAVEL ■ (20, 40, 60, 80)

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/06/09
	Fig. No:	Page 1 of 1

93/11/12 12:56PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-33
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1907+200	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC MATERIAL -frozen with visible ice crystals (Vx)							0.0
	SILTY GRAVEL WITH SAND (GM) -frozen with visible ice crystals (Vx)							
1.0								1.0
		X	76	● ▲	GM		◆ ■	
2.0	END HOLE at 2.0m -refusal							2.0
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 2.0 m
	REVIEWED BY:	COMPLETE: 92/06/09
	Fig. No:	Page 1 of 1

93/11/12 12:54PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	BOREHOLE No. 175-32
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1907+300	ELEVATION 0.000 (m)

SAMPLE TYPE ■ RETURN ⧄ S.P.T. ☒ AUGER ■ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲PERCENT FINES▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	PERMAFROST DESCRIPTION	DEPTH (m)
0.0	SANDY GRAVEL						0.0
	END HOLE at 0.5m -refusal						
1.0							1.0
2.0							2.0
3.0							3.0
4.0							4.0
5.0							5.0
6.0							6.0

Public Works Canada Whitehorse, Yukon Territory.	COMPLETION DEPTH 0.5 m		COMPLETE 92/06/09
	LOGGED BY AW	DWG NO.	Page 1 of 1

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-01
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1907+504 o/s 2m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
	SILTY SAND WITH GRAVEL (SM) -brown -moist -grindy drilling							
1.0	-first refusal at 0.9m -second refusal at 1.0m	X	1	● H ▲	SM		■◆	1.0
	END HOLE at 1.7m -refusal at 1.7m							
2.0								2.0
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 1.7 m
	REVIEWED BY:	COMPLETE: 91/08/09
	Fig. No:	Page 1 of 1

93/11/10 04:11PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-02
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1907+600 o/s 7m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILTY, CLAYEY SAND WITH GRAVEL (SC-SM) -brown -wet -smooth drilling -grindy drilling below 0.8m				
1.0		AUGER	2	SC-SM	
2.0	CLAYEY GRAVEL WITH SAND (GC) -brown -moist				
3.0		AUGER	3	GC	
	SILTY, CLAYEY GRAVEL WITH SAND (GC-GM) -brown -damp -tight jumpy noisy drilling				
4.0		AUGER	4	GC-GM	
	END HOLE at 4.6m				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/09
	Fig. No:	Page 1 of 1

93/11/10 04:12PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-03
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1907+700 o/s 7m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	SILTY, CLAYEY GRAVEL WITH SAND (GC-GM) -brown -moist -slightly grindy drilling				
1.0		AUGER	5	GC-GM	
2.0	SILTY, CLAYEY SAND WITH GRAVEL (SC-SM) -brown -moist				
3.0		AUGER	6	SC-SM	
4.0	SILTY SAND WITH GRAVEL (SM) -brown -wet				
		AUGER	7	SM	
5.0					
6.0		AUGER	8	SM	
7.0					
8.0		AUGER	9	SM	
	END HOLE at 8.0m				
9.0					
10.0					

Chart: ▲ PERCENT FINES ▲ 20 40 60 80; PLASTIC M.C. LIQUID 20 40 60 80; ◆ PERCENT SAND ◆ 20 40 60 80; ■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 8.0 m
	REVIEWED BY:	COMPLETE: 91/08/09
	Fig. No:	Page 1 of 1

93/11/10 04:17PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-04
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1907+800 o/s 8m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES (20 40 60 80) / PLASTIC M.C. LIQUID	USC	SOIL SYMBOL	PERCENT SAND / PERCENT GRAVEL (20 40 60 80)	DEPTH (m)
0.0	SILTY, CLAYEY GRAVEL WITH SAND (GC-GM) -brown -moist -smooth drilling							0.0
1.0	-grindy drilling below 0.9m							1.0
		X	10	H	GC-GM			
2.0								2.0
	SILTY SAND WITH GRAVEL (SM) -brown -moist							
		X	11	H	SM			
3.0								3.0
	SILTY, CLAYEY SAND WITH GRAVEL (SC-SM) -brown -wet							
4.0								4.0
		X	12	H	SC-SM			
	END HOLE at 4.6m							
5.0								5.0
6.0								6.0

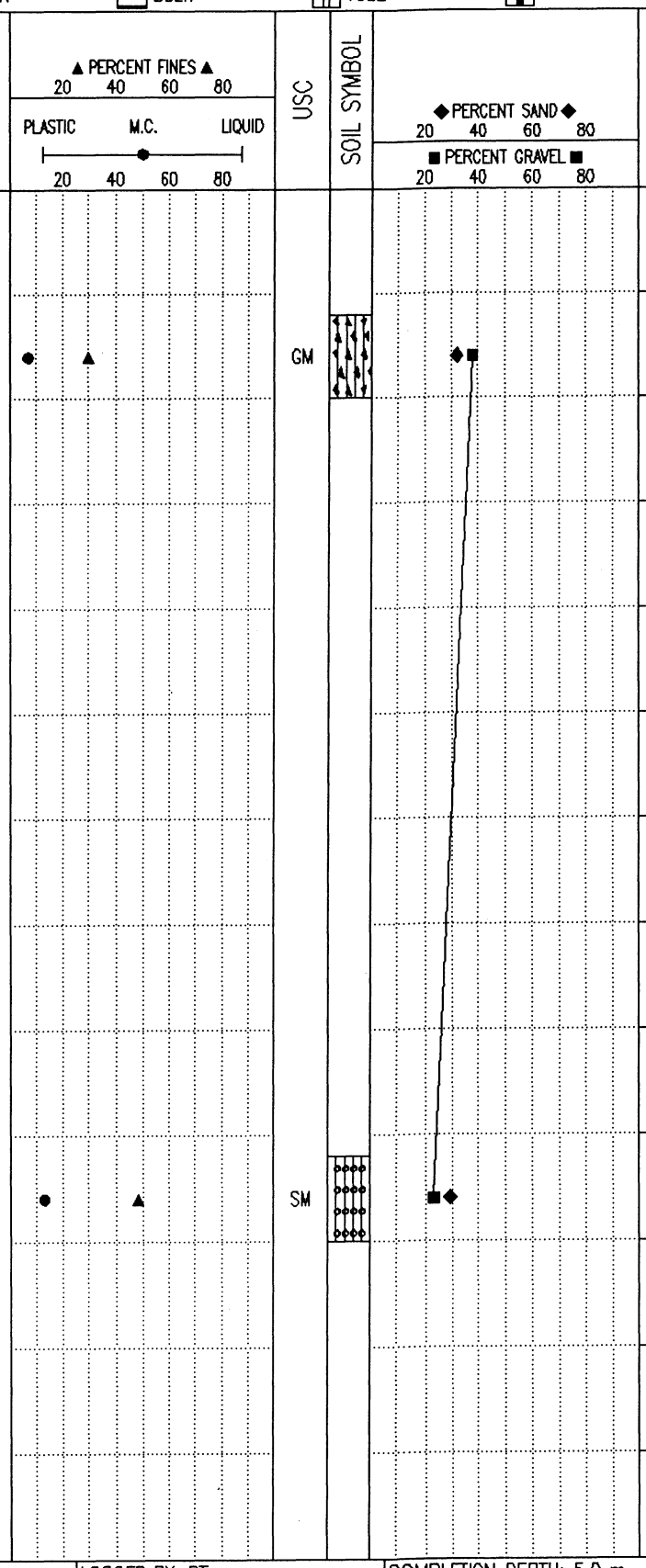
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/09
	Fig. No:	Page 1 of 1

93/11/10 04:18PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 258-37
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1907+800 o/s 20m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILTY GRAVEL WITH SAND (GM) -brown -moist -cobbles and boulders		88	GM	
1.0					
2.0					
3.0	SILTY SAND WITH GRAVEL (SM) -light brown -moist to wet -cobbles and boulders				
4.0			89	SM	
5.0	END HOLE at 5.0m -in old pit				
6.0					



Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 5.0 m
	REVIEWED BY:	COMPLETE: 93/10/03
	Fig. No:	Page 1 of 1

93/10/28 09:00AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-05
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1907+900 o/s 17m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SILTY GRAVEL WITH SAND (GM) -brown -moist -slightly grindy drilling							0.0
1.0								1.0
			13	● H ▲	GM		◆ ■	
2.0								2.0
			14	● H ▲	GM		◆ ■	
3.0								3.0
4.0								4.0
			15	● H				
	END HOLE at 4.6m							
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/09
	Fig. No:	Page 1 of 1

93/11/10 04:20PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-06
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1908+000 o/s 5m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
	SILTY GRAVEL WITH SAND (GM) -brown -moist -smooth drilling							
1.0	-grindy drilling below 0.9m							1.0
	-first refusal at 1.2m	X	16	● ▲	GM		◆ ■	
2.0								2.0
	END HOLE at 2.4m -refusal							
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 2.4 m
	REVIEWED BY:	COMPLETE: 91/08/09
	Fig. No:	Page 1 of 1

93/11/10 04:21PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-07
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1908+100 o/s 4m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	ORGANIC MATERIAL -silty sand (SM)				
1.0	-frozen with large ice crystals below 1.1m	AUGER	17	SM	
2.0					
3.0					
4.0					
5.0	END HOLE at 5.1m				
6.0					

▲ PERCENT FINES ▲ (20, 40, 60, 80)

PLASTIC — M.C. — LIQUID (20, 40, 60, 80)

◆ PERCENT SAND ◆ (20, 40, 60, 80)

■ PERCENT GRAVEL ■ (20, 40, 60, 80)

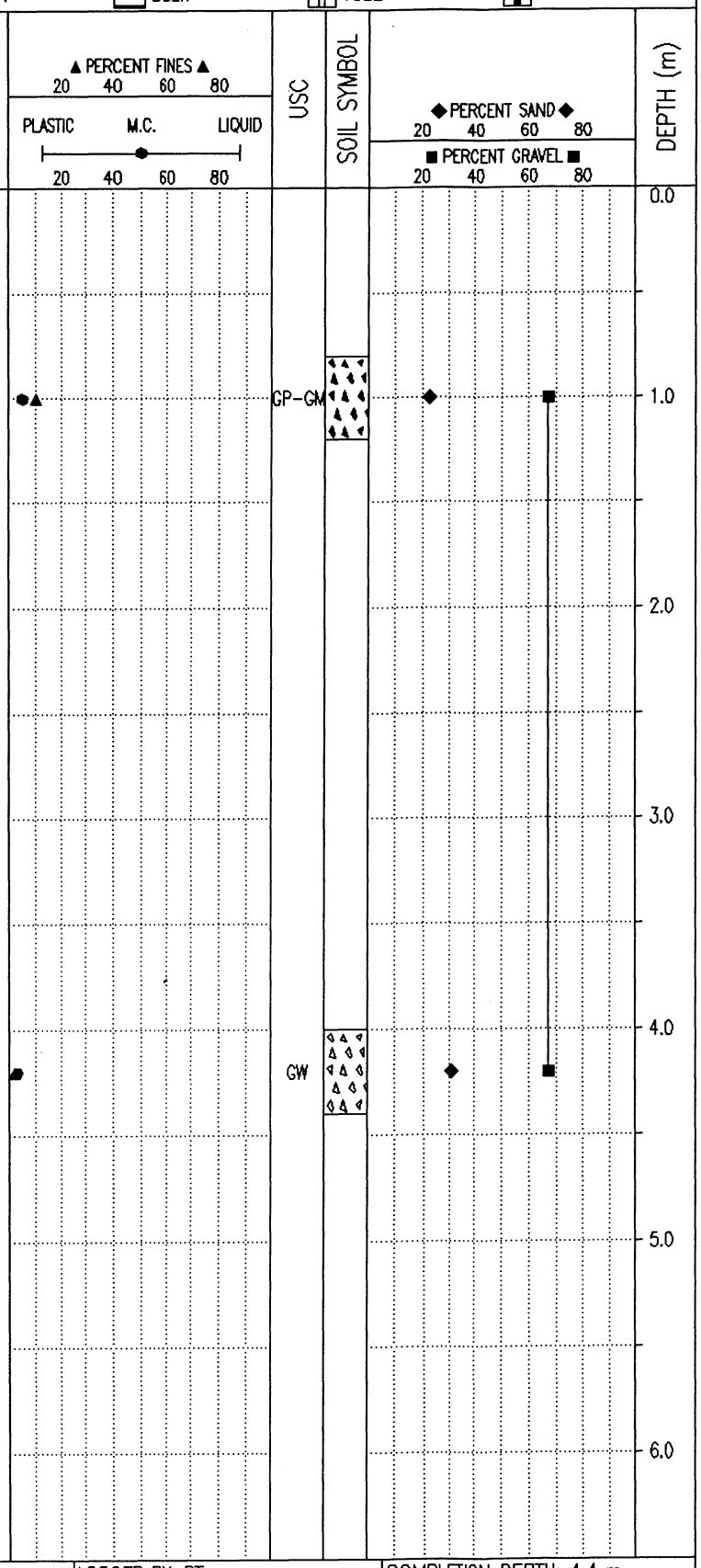
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 5.1 m
	REVIEWED BY:	COMPLETE: 91/08/10
	Fig. No:	Page 1 of 1

93/11/10 04:23PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 258-38
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1908+100 o/s 10m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	GRAVELLY SILT -brown -moist				
	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -moist -maximum 300mm material -estimate 15% +100mm		90	GP-GM	
1.0					
2.0					
	WELL-GRADED GRAVEL WITH SAND (GW) -brown -moist -maximum 300mm material -estimate 15% +100mm				
3.0					
4.0			91	GW	
	END HOLE at 4.4m -frozen at 4.4m				
5.0					
6.0					



Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.4 m
	REVIEWED BY:	COMPLETE: 93/10/03
	Fig. No:	Page 1 of 1

93/10/28 09:01AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-08
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1908+200 o/s 3m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ☒ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILTY GRAVEL WITH SAND (GM) -brown -saturated -grindy drilling				
1.0		☒	18	GM	
2.0	-gray below 1.9m -maximum 50mm material augered up below 1.9m depth -jumpy noisy drilling below 1.9m				
3.0		☒	19	GM	
	-frozen below 3.4m				
	SILTY SAND WITH GRAVEL (SM) -gray -frozen Vx				
4.0		☒	20	SM	
	END HOLE at 4.6m				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

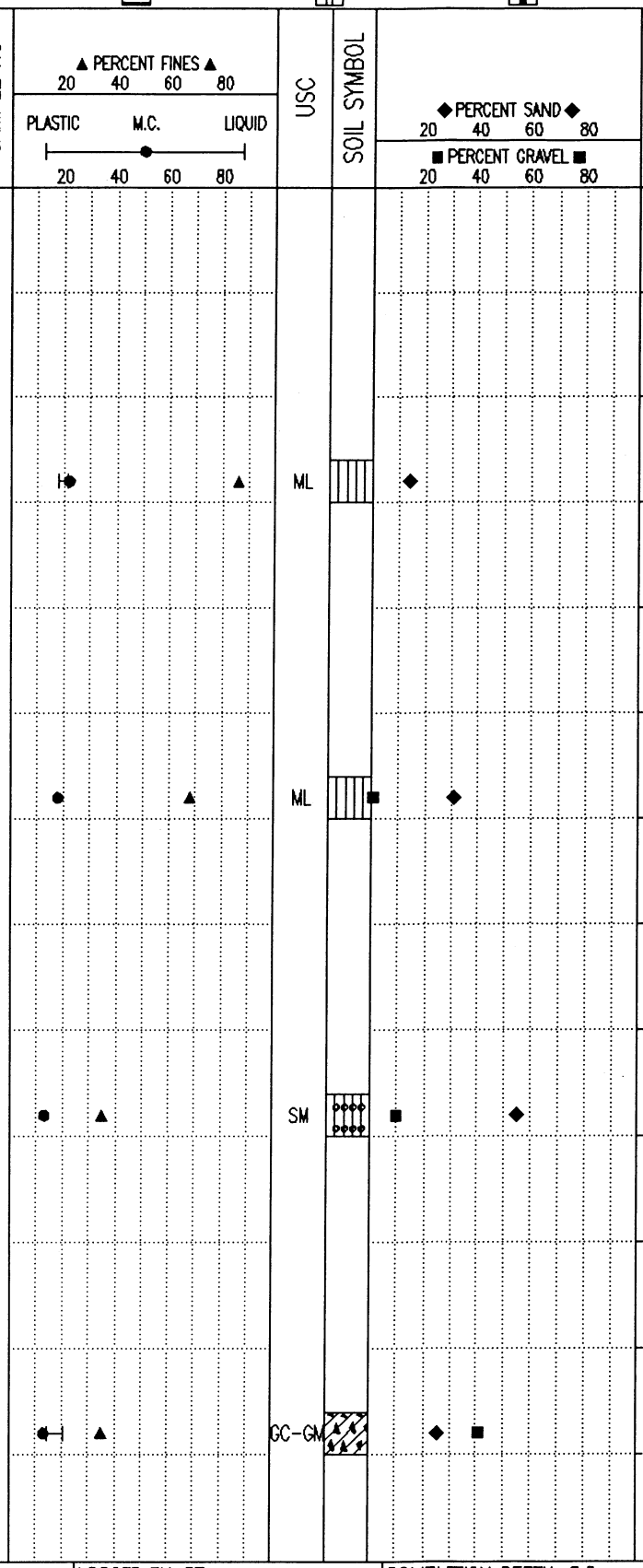
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/10
	Fig. No:	Page 1 of 1

93/11/10 04:24PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-09
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1908+300 o/s 3m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	SILT (ML) -brown -saturated -smooth drilling				
1.0		AUGER	21	ML	
2.0	SANDY SILT (ML) -brown -saturated				
3.0		AUGER	22	ML	
4.0	SILTY SAND (SM) -gray -free water -grindy drilling	AUGER	23	SM	
5.0	SILTY, CLAYEY GRAVEL WITH SAND (GC-GM) -dark gray -free water -maximum 50mm material augered up	AUGER	24	GC-GM	
6.0	END HOLE at 6.0m				



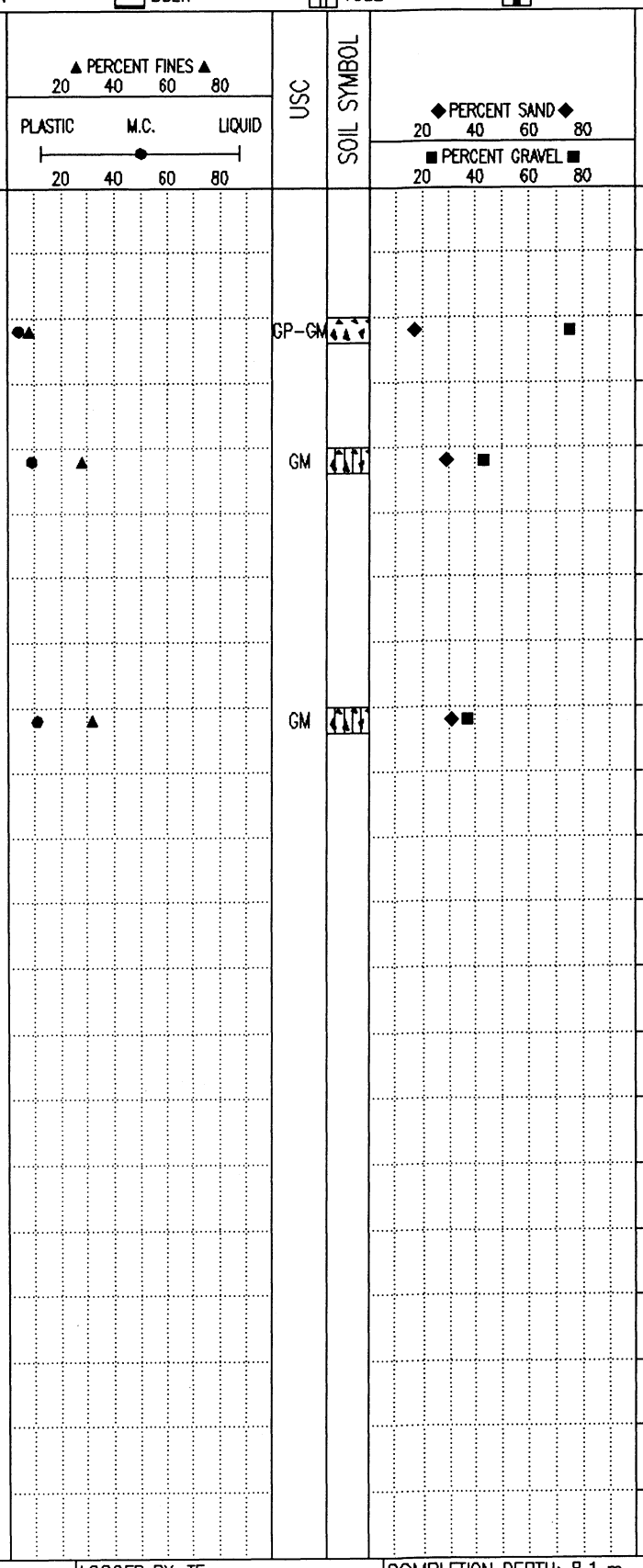
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 6.0 m
	REVIEWED BY:	COMPLETE: 91/08/10
	Fig. No:	Page 1 of 1

93/11/10 04:26PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 244-12
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1908+300 o/s 2m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⧄ S.P.T. ☒ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM)				
	-fines not retained				
1.0		☒	30	GP-GM	
	SILTY GRAVEL WITH SAND (GM)				
2.0	-wet				
	-some fines lost	☒	31	GM	
	-grindy drilling below 2.6m				
3.0					
	-saturated below 3.3m				
	-smooth drilling below 3.3m				
	-grindy drilling below 3.7m				
4.0		☒	32	GM	
5.0	-smooth but harder drilling below 5.0m				
6.0 ▼	-water below 6.0m				
7.0					
8.0	END HOLE at 8.1m				
	-refusal				
9.0					
10.0					



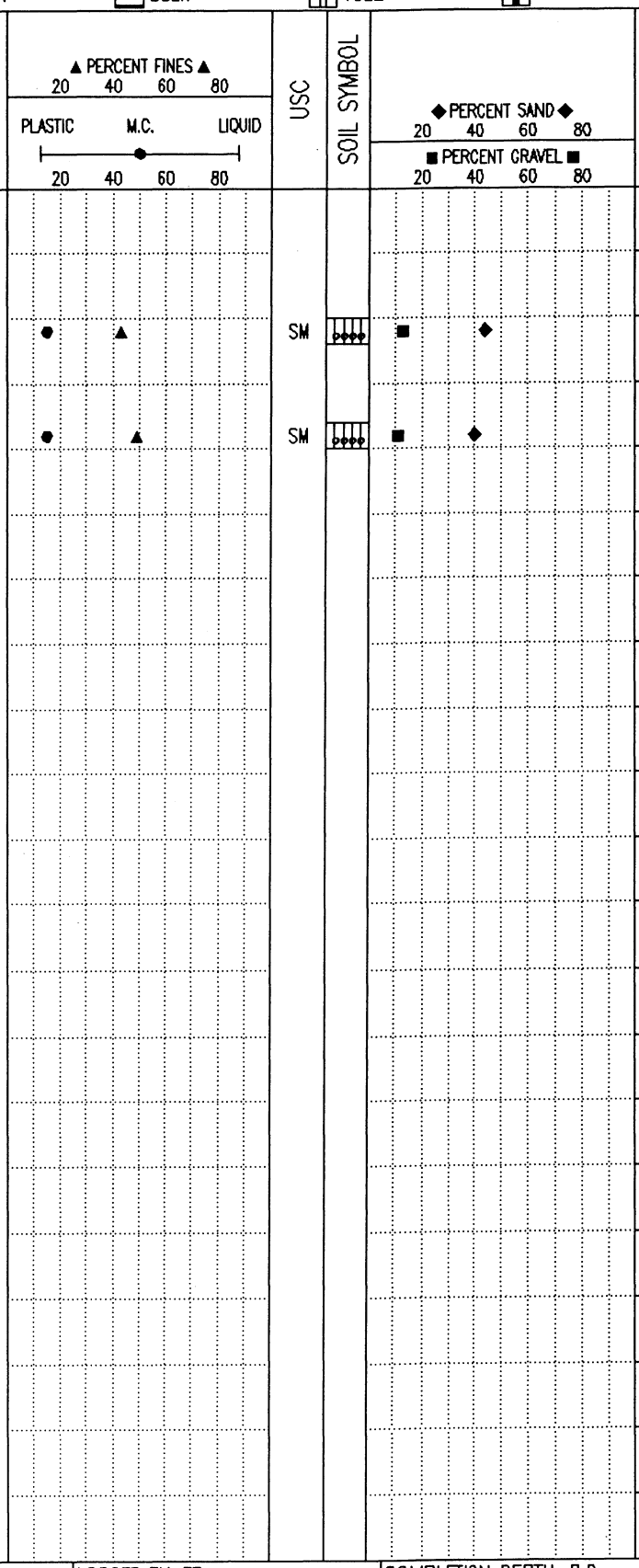
Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 8.1 m
	REVIEWED BY:	COMPLETE: 93/09/02
	Fig. No:	Page 1 of 1

93/11/10 03:13PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 244-13
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1908+400	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILTY SAND (SM)				
	-brown				
	-wet				
1.0	-may be frozen below 1.0m	AUGER	33	SM	
2.0	-saturated at 1.8m	AUGER	34	SM	
	-grindy drilling below 1.8m				
3.0					
4.0					
5.0 ▼	-frozen below 5.0m				
	-water augering out of hole below 5.0m				
6.0					
	-ice and water coming up below 6.5m				
7.0					
8.0	END HOLE at 8.0m				
9.0					
10.0					



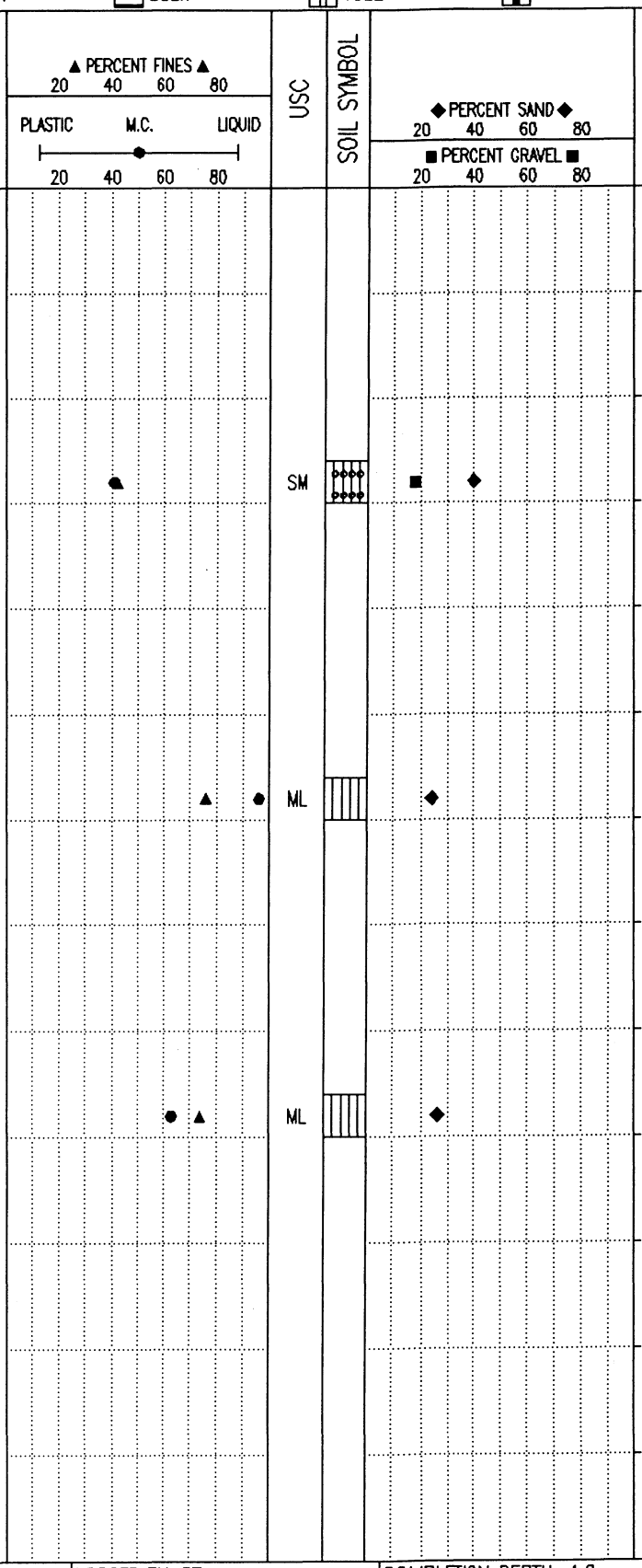
Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 8.0 m
	REVIEWED BY:	COMPLETE: 93/09/02
	Fig. No:	Page 1 of 1

93/11/10 03:15PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-10
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1908+400 o/s 7m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILTY SAND WITH GRAVEL (SM) -gray -frozen, no visible ice -organic -smooth drilling	AUGER	25	SM	
2.0	SILT WITH SAND (ML) -brown -frozen with visible ice crystals -organic	AUGER	26	ML	
4.0	ICE WITH SOIL -silt with sand (ML)	AUGER	27	ML	
	END HOLE at 4.6m				
5.0					
6.0					



Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/10
	Fig. No:	Page 1 of 1

93/11/10 04:27PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-11
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1908+500 o/s 2m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
	SILTY GRAVEL WITH SAND (GM) -brown -frozen, no visible ice							
1.0								1.0
		X	28	● ▲	GM		◆	
	-first refusal at 1.7m							
2.0	END HOLE at 1.8m -refusal -boulders to 200mm on surface							2.0
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0

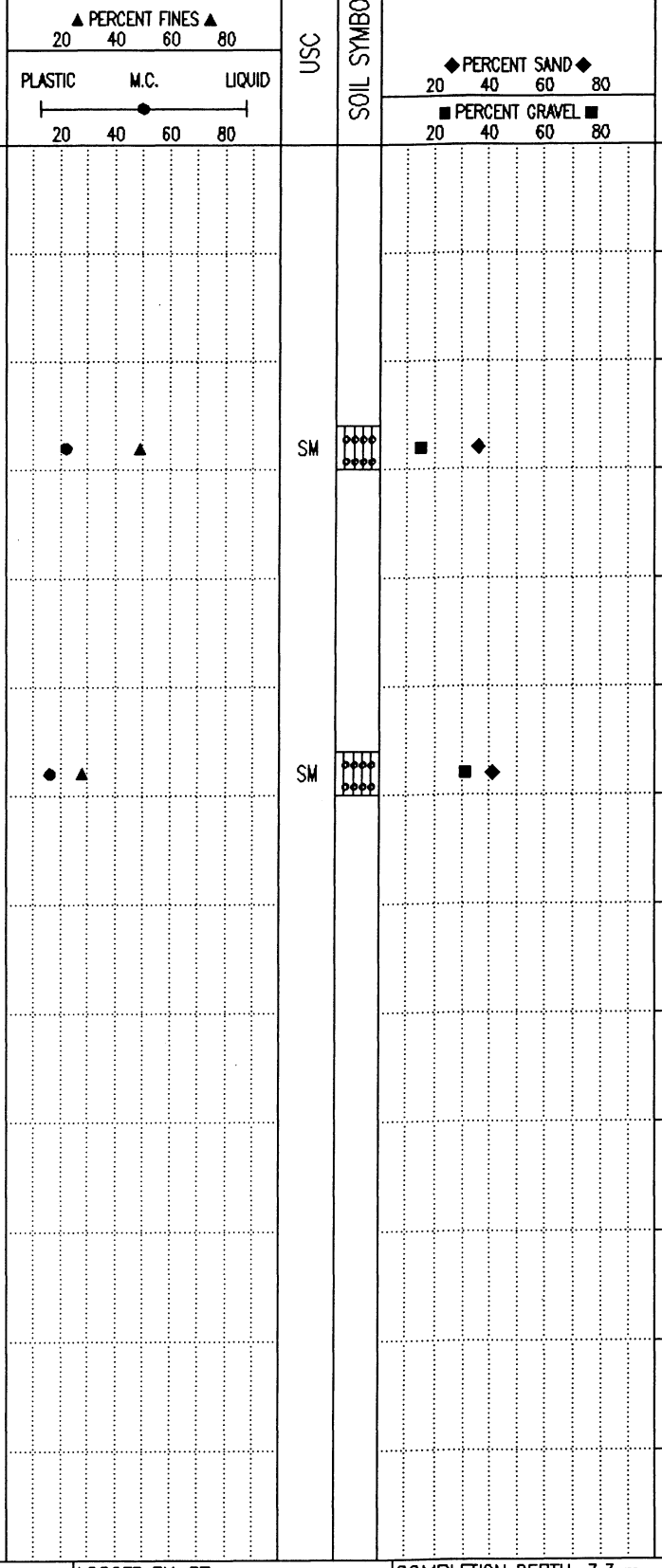
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 1.8 m
	REVIEWED BY:	COMPLETE: 91/08/10
	Fig. No:	Page 1 of 1

93/11/10 04:29PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-12
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1908+600	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	ICE WITH SOIL -silty sand with gravel (SM)				
1.0		AUGER	29	SM	
2.0					
	SILTY SAND WITH GRAVEL (SM) -gray -frozen with visible ice -slow grindy drilling	AUGER	30	SM	
3.0					
	END HOLE at 3.3m -refusal				
4.0					
5.0					
6.0					



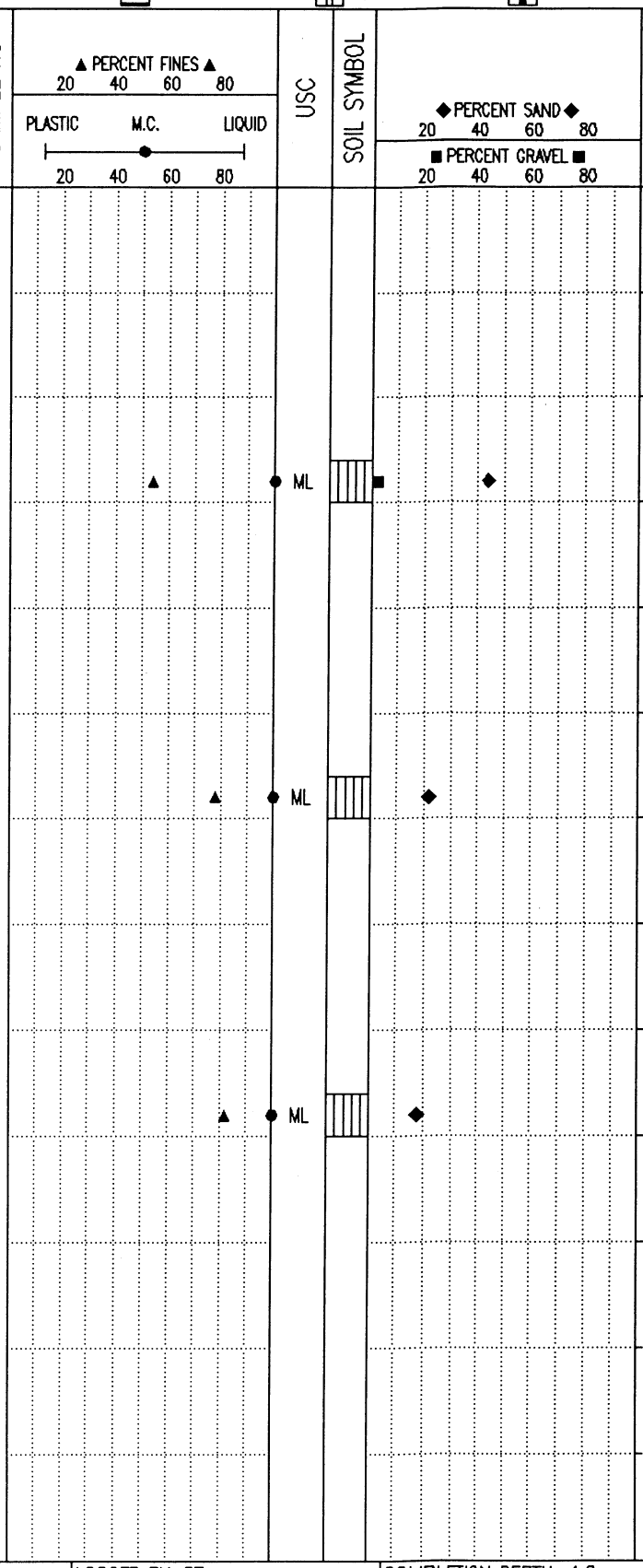
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 3.3 m
	REVIEWED BY:	COMPLETE: 91/08/10
	Fig. No:	Page 1 of 1

93/11/10 04:30PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-13
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1908+700 o/s 2m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL -smooth drilling				
	ORGANIC MATERIAL AND ICE -sandy silt (ML)				
1.0		AUGER	31	ML	
2.0	SILT WITH SAND (ML) AND ICE -brown -trace organic				
3.0	-very slow drilling below 3.0m	AUGER	32	ML	
4.0		AUGER	33	ML	
	END HOLE at 4.6m				
5.0					
6.0					



Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/10
	Fig. No:	Page 1 of 1

93/11/10 04:32PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-14
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1908+800 o/s 2m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILTY ORGANIC MATERIAL -black				
1.0	SILTY SAND WITH GRAVEL (SM) -brown -moist	AUGER	34	SM	
2.0					
	SILTY GRAVEL WITH SAND (GM) -gray -frozen, no visible ice -grindy drilling	AUGER	35	GM	
3.0					
	SILTY SAND WITH GRAVEL (SM) -gray -frozen, no visible ice				
4.0		AUGER	36	SM	
	END HOLE at 4.6m				
5.0					
6.0					

Plot: ▲ PERCENT FINES ▲ (20, 40, 60, 80); PLASTIC — M.C. — LIQUID (20, 40, 60, 80); ◆ PERCENT SAND ◆ (20, 40, 60, 80); ■ PERCENT GRAVEL ■ (20, 40, 60, 80)

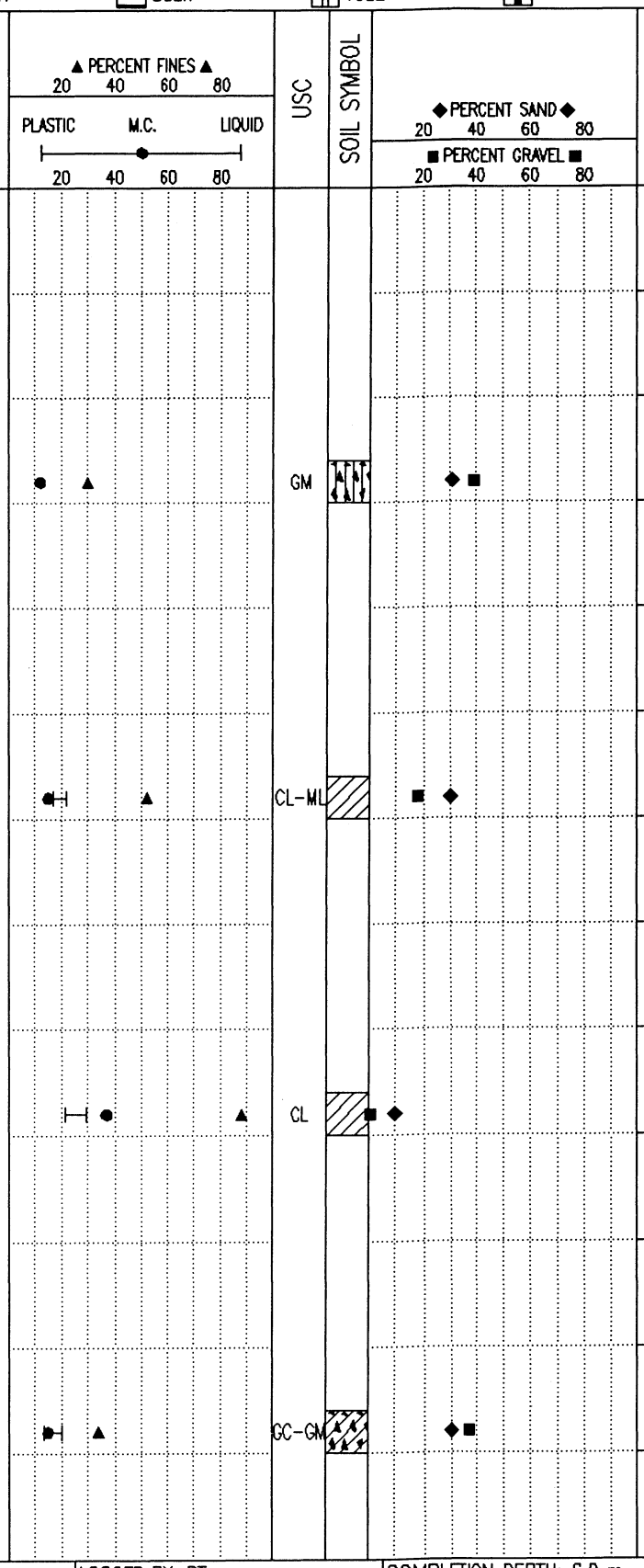
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/10
	Fig. No:	Page 1 of 1

93/11/10 04:33PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-15
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1908+900	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	SILTY GRAVEL WITH SAND (GM) -brown -saturated -smooth drilling				
1.0	-grindy drilling below 0.9m		37	GM	
2.0	SANDY SILTY CLAY WITH GRAVEL (CL-ML) -brown -saturated				
3.0			38	CL-ML	
	LEAN CLAY (CL) -brown -free water				
4.0	-frozen with visible ice crystals below 4.0m depth		39	CL	
5.0	SILTY, CLAYEY GRAVEL WITH SAND (GC-GM) -brown -frozen with visible ice crystals				
6.0	END HOLE at 6.0m		40	GC-GM	



Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 6.0 m
	REVIEWED BY:	COMPLETE: 91/08/10
	Fig. No:	Page 1 of 1

93/11/10 04:35PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-16
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1909+000	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ (20 40 60 80) / PLASTIC M.C. LIQUID (20 40 60 80)	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ (20 40 60 80) / ■ PERCENT GRAVEL ■ (20 40 60 80)	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
	SILTY GRAVEL WITH SAND (GM) -brown -moist -grindy drilling							
1.0								1.0
		AUGER	41	● H ▲	GM		◆ ■	
2.0								2.0
	SILTY, CLAYEY SAND (SC-SM) -brown -moist							
3.0		AUGER	42	● H ▲	SC-SM		■ ◆	3.0
	SILTY, CLAYEY GRAVEL WITH SAND (GC-GM) -brown -moist							
4.0								4.0
		AUGER	43	● H ▲	GC-GM		◆ ■	
	END HOLE at 4.6m -boulders to 800mm on surface							
5.0								5.0
6.0								6.0

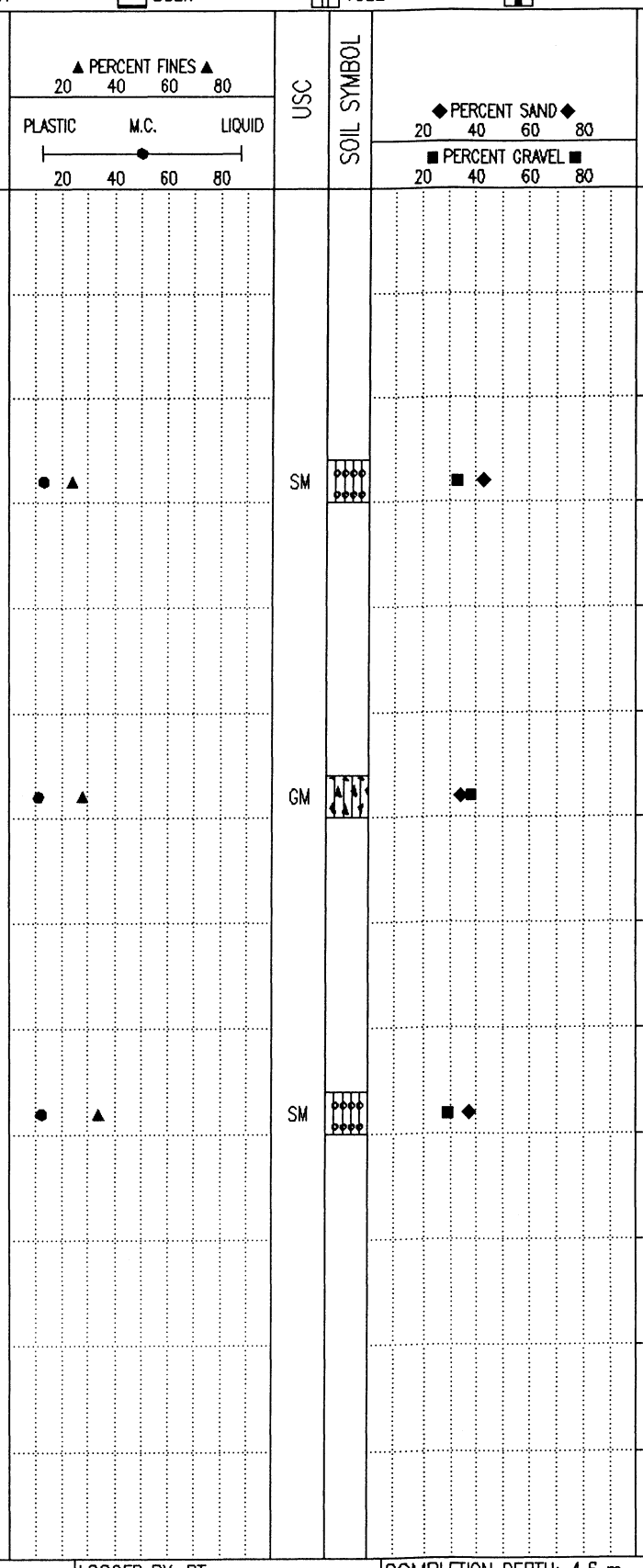
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/10
	Fig. No:	Page 1 of 1

93/11/10 04:37PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-17
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1909+100	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	SILTY SAND WITH GRAVEL (SM) -organics -grindy drilling				
1.0		AUGER	44	SM	
2.0	SILTY GRAVEL WITH SAND (GM) -brown -wet to saturated				
3.0		AUGER	45	GM	
4.0	SILTY SAND WITH GRAVEL (SM) -brown -wet to saturated				
		AUGER	46	SM	
5.0	END HOLE at 4.6m -in old pit -boulders to 800mm on surface				
6.0					



Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/10
	Fig. No:	Page 1 of 1

93/11/12 09:14AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-18
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1909+203 o/s 2m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES (20 40 60 80) / PLASTIC M.C. LIQUID (20 40 60 80)	USC	SOIL SYMBOL	PERCENT SAND / PERCENT GRAVEL (20 40 60 80)	DEPTH (m)
0.0	SILTY SAND WITH GRAVEL (SM) -brown -moist -grindy drilling							0.0
1.0		AUGER	47		SM			1.0
2.0								2.0
3.0		AUGER	48		SM			3.0
4.0								4.0
	SILTY GRAVEL WITH SAND (GM) -brown -moist -grindy drilling							
5.0		AUGER	49	H	GM			5.0
6.0	SILTY SAND (SM) -brown -moist -smooth drilling							6.0
7.0		AUGER	49A		SM			7.0
	END HOLE at 7.2m -on bladed ridge top							
8.0								8.0
9.0								9.0
10.0								10.0

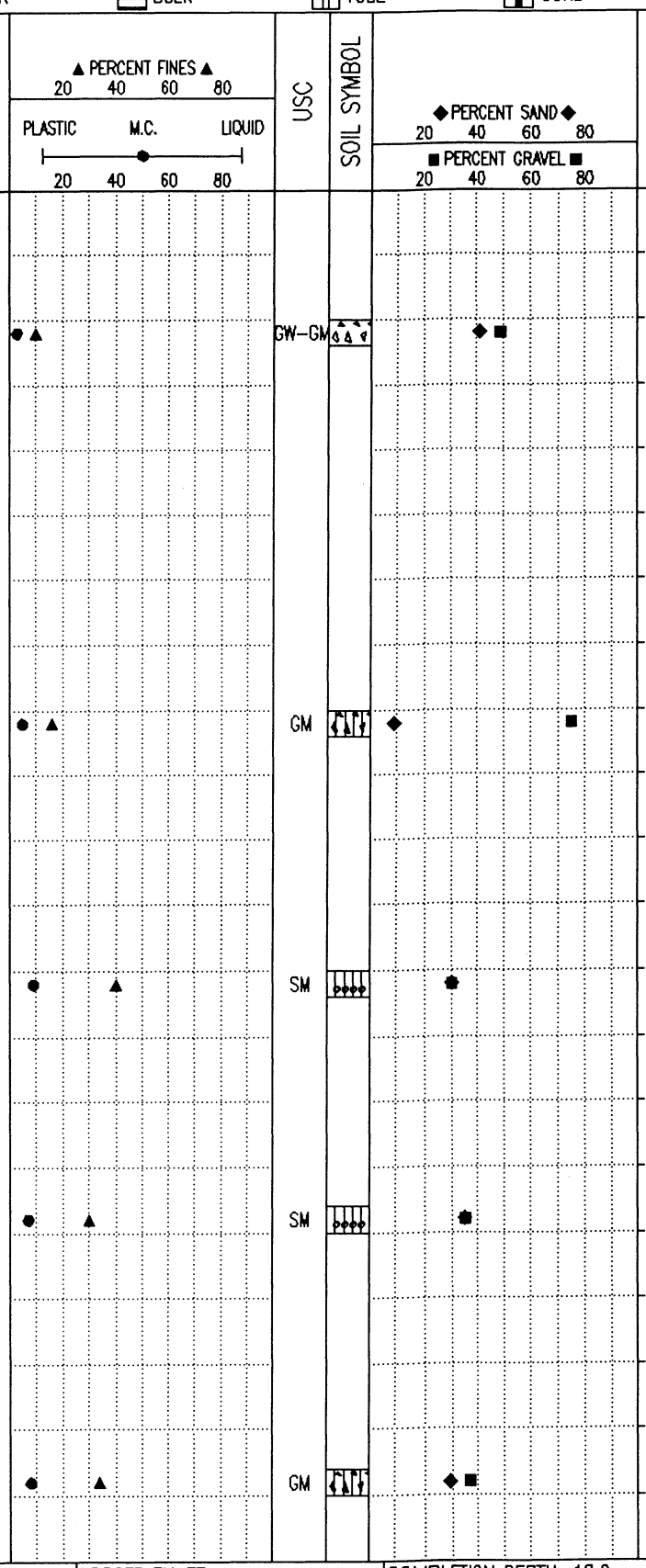
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 7.2 m
	REVIEWED BY:	COMPLETE: 91/08/10
	Fig. No:	Page 1 of 1

94/01/17 02:50PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 244-17
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1909+203	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -grindy drilling -some fines lost				
1.0		AUGER	43	GW-GM	
2.0					
	SILTY GRAVEL (GM) -grindy drilling -sand and fines lost				
3.0					
4.0		AUGER	44	GM	
	SILTY SAND WITH GRAVEL (SM) -smooth drilling				
5.0					
6.0	-grindy drilling below 5.8m	AUGER	45	SM	
7.0					
8.0		AUGER	46	SM	
	SILTY GRAVEL WITH SAND (GM) -smooth drilling				
9.0					
10.0		AUGER	47	GM	
	END HOLE at 10.0m				



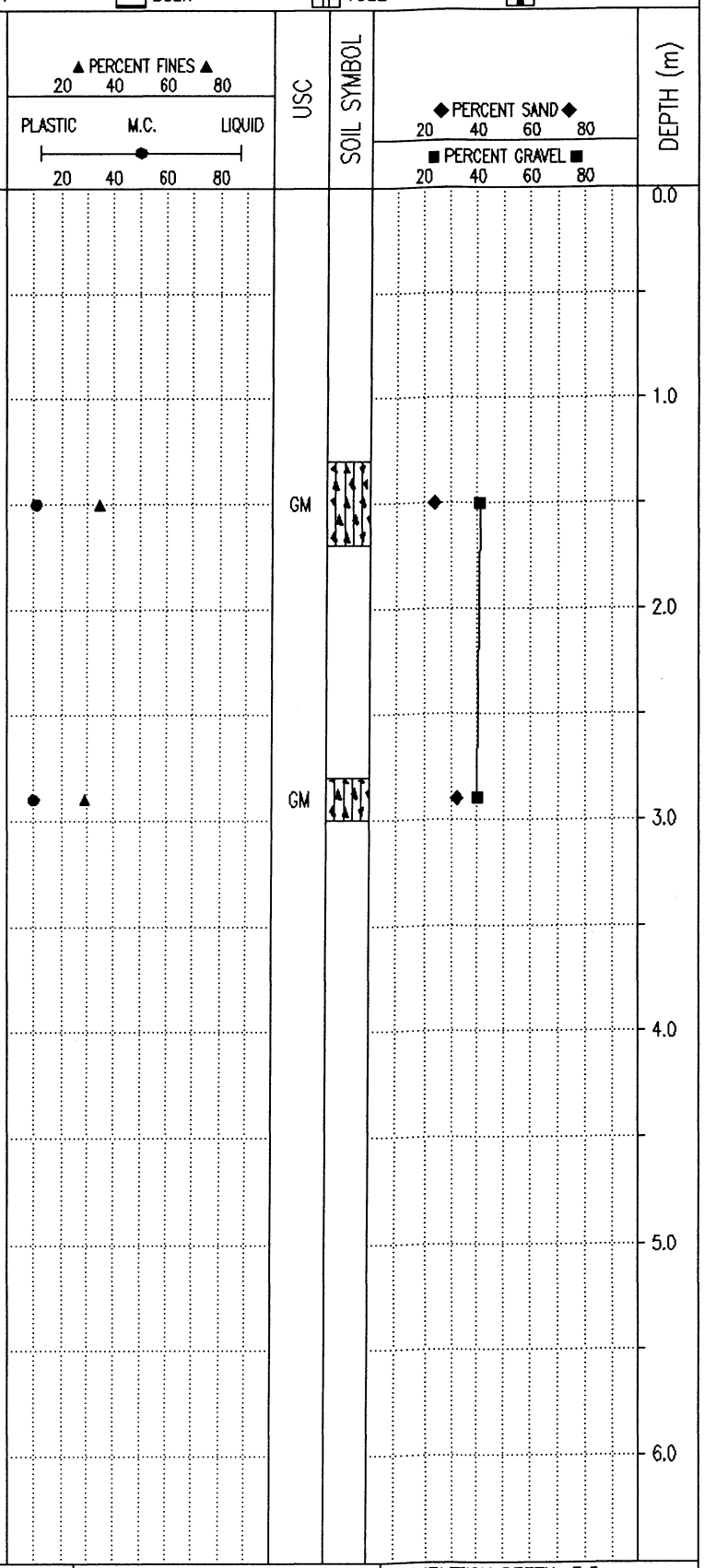
Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 10.0 m
	REVIEWED BY:	COMPLETE: 93/09/03
	Fig. No:	Page 1 of 1

93/11/10 03:17PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 258-39
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1909+300	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	ORGANIC SILT				
	SILTY GRAVEL WITH SAND (GM) -light gray brown -frozen (Vx) with many large ice lenses -cobbles				
1.0			92	GM	
2.0	-less ice below 2.0m				
			93	GM	
3.0	END HOLE at 3.0m -refusal				
4.0					
5.0					
6.0					



Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 3.0 m
	REVIEWED BY:	COMPLETE: 93/10/03
	Fig. No:	Page 1 of 1

93/10/28 09:03AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 139-20
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1909+300 o/s 2m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILTY, CLAYEY GRAVEL WITH SAND (GC-GM) -brown -frozen with visible ice				
1.0		AUGER	53	GC-GM	
	-jumpy grindy drilling at 1.7m				
2.0	SANDY SILTY CLAY WITH GRAVEL (CL-ML) -brown -frozen with visible ice crystals				
3.0		AUGER	54	CL-ML	
	SILTY GRAVEL WITH SAND (GM) -brown -frozen with visible ice crystals				
4.0		AUGER	55	GM	
	END HOLE at 4.6m				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

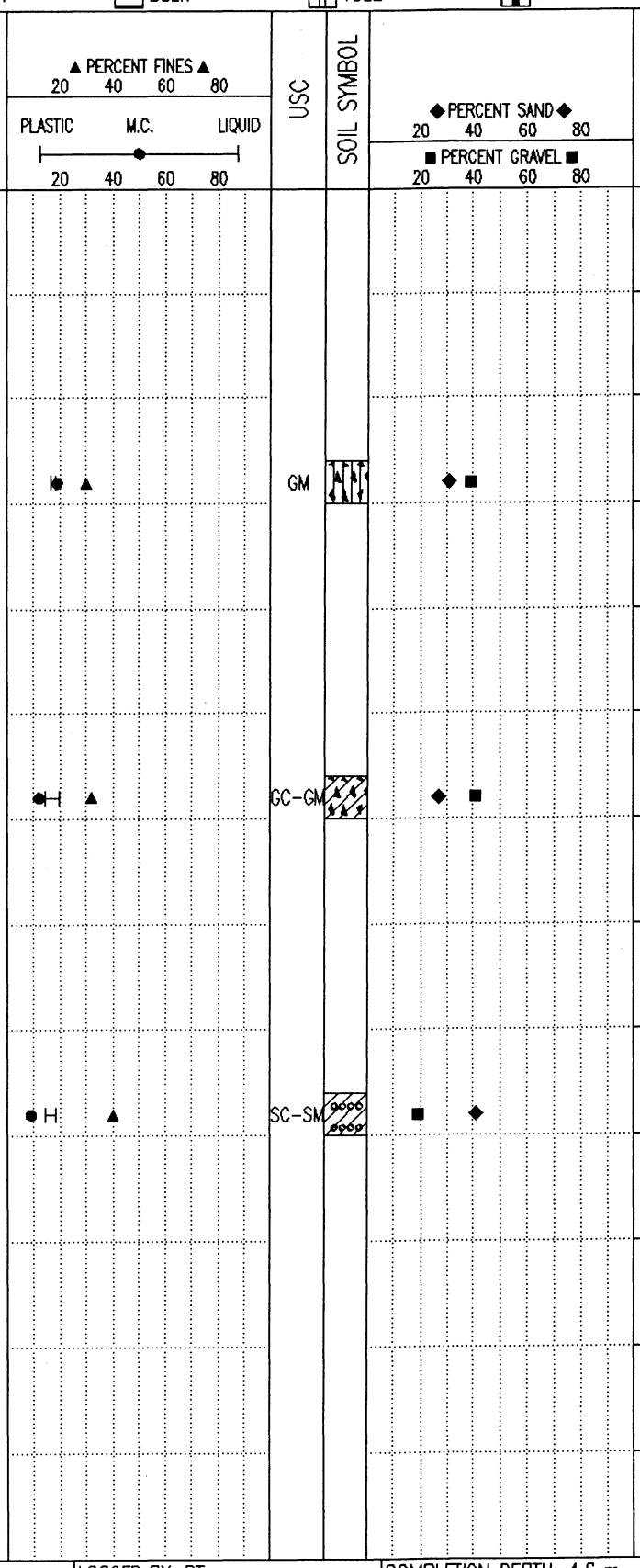
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/11
	Fig. No:	Page 1 of 1

93/11/12 09:19AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-21
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1909+400	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILTY GRAVEL WITH SAND (GM) -brown -grindy drilling				
1.0	-frozen with visible ice crystals below 0.9m				
		AUGER	56	GM	
	-first refusal at 1.6m				
2.0					
	SILTY, CLAYEY GRAVEL WITH SAND (GC-GM) -brown -frozen, no visible ice				
3.0		AUGER	57	GC-GM	
	SILTY, CLAYEY SAND WITH GRAVEL (SC-SM) -gray -frozen, no visible ice				
4.0		AUGER	58	SC-SM	
	END HOLE at 4.6m				
5.0					
6.0					



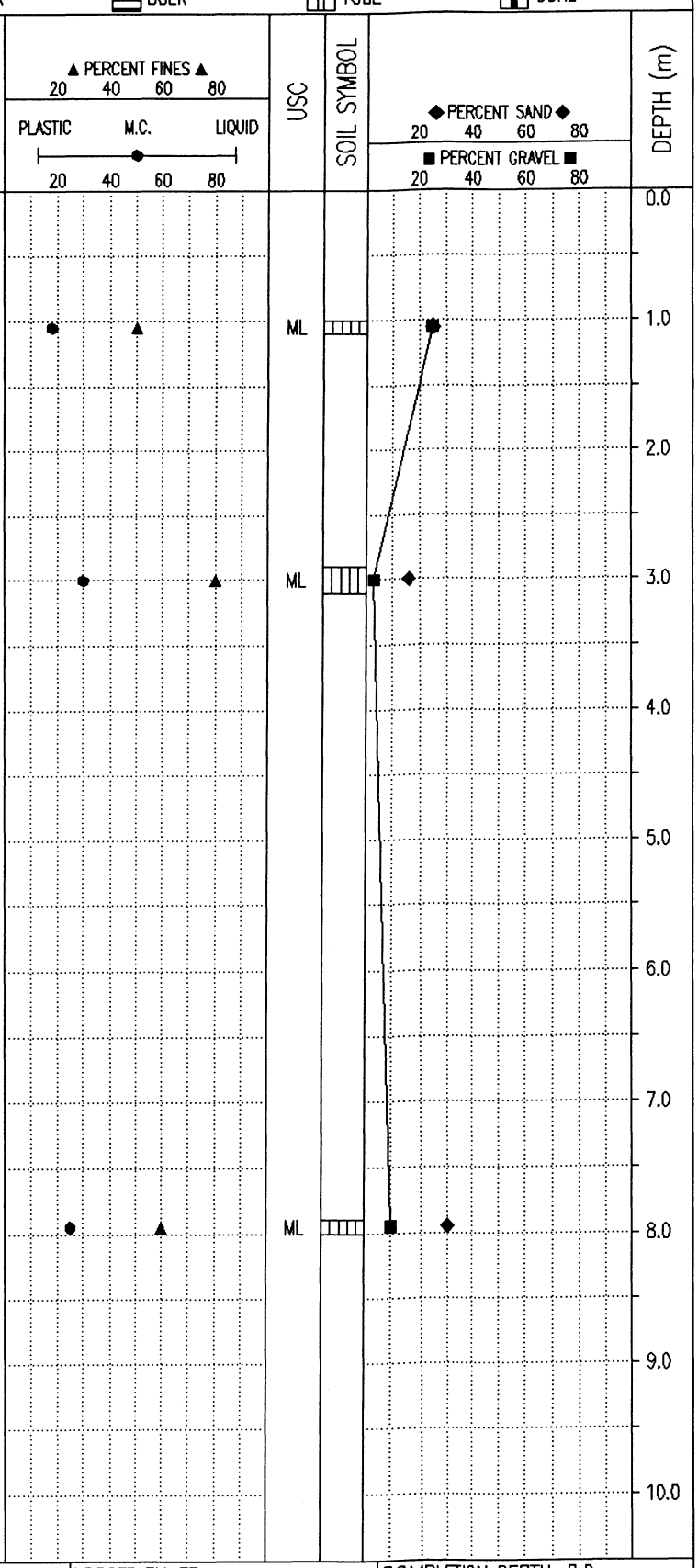
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/11
	Fig. No:	Page 1 of 1

93/11/12 09:20AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 244-18
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1909+450	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	ICE				
1.0	SANDY SILT WITH GRAVEL (ML) -frozen with visible ice	AUGER	48	ML	TUBE
2.0	SILT WITH SAND TO SANDY SILT (ML) -frozen with visible ice -smooth drilling				
3.0		AUGER	49	ML	TUBE
4.0					
5.0	ICE				
	GRAVELLY SANDY SILT -frozen -smooth drilling				
6.0					
	-grindy drilling below 6.5m -smooth drilling below 6.8m				
7.0					
	-grindy drilling below 7.6m				
8.0	END HOLE at 8.0m	AUGER	50	ML	TUBE
9.0					
10.0					



Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 8.0 m
	REVIEWED BY:	COMPLETE: 93/09/03
	Fig. No:	Page 1 of 1

93/09/30 09:13AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-22
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1909+500 o/s 2m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL -smooth drilling				
1.0					
	SANDY SILT (ML) -ash -light gray -frozen, no visible ice -first refusal at 1.3m -sample #59 contaminated from above	AUGER	59	ML	
2.0					
	ORGANIC MATERIAL -sandy silt (ML) -frozen with visible ice	AUGER	60	ML	
3.0					
	SILTY GRAVEL WITH SAND (GM) -brown -frozen,no visible ice -grindy noisy drilling				
4.0		AUGER	61	GM	
	END HOLE at 4.6m				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/11
	Fig. No:	Page 1 of 1

93/11/12 09:22AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-23
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1909+600 o/s 2m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES (20 40 60 80) / PLASTIC M.C. LIQUID (20 40 60 80)	USC	SOIL SYMBOL	PERCENT SAND / PERCENT GRAVEL (20 40 60 80)	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
	ICE + SOIL -silty, clayey sand with gravel(SC-SM)							
1.0								1.0
		X	62	H ● ▲	SC-SM		■ ◆	
2.0	-first refusal at 2.0m SILTY SAND WITH GRAVEL (SM) -brown -frozen, no visible ice							2.0
		X	63	● H ▲	SM		■ ◆	
3.0								3.0
	END HOLE at 3.5m -refusal							
4.0								4.0
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 3.5 m
	REVIEWED BY:	COMPLETE: 91/08/11
	Fig. No:	Page 1 of 1

93/11/12 09:23AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 145-143
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1909+675	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILTY SAND WITH GRAVEL (SM) -gray -frozen with visible ice Vx	AUGER	398	SM	
	SILTY, CLAYEY SAND WITH GRAVEL (SC-SM) -brown -frozen Nb -slow grindy drilling	AUGER	399	SC-SM	
	END HOLE at 3.3m -refusal				

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

DEPTH (m): 0.0, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0

Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 3.3 m
	REVIEWED BY: DT	COMPLETE: 91/09/07
	Fig. No:	Page 1 of 1

93/11/12 11:48AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 145-144
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1909+775 o/s 2m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SANDY SILTY CLAY (CL-ML) -brown				
1.0					
	-frozen below 1.3m	AUGER	400	CL-CM	
2.0					
	SILTY SAND WITH GRAVEL (SM) -brown -frozen Nb				
3.0		AUGER	401	SM	
	END HOLE at 3.3m -refusal				
4.0					
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

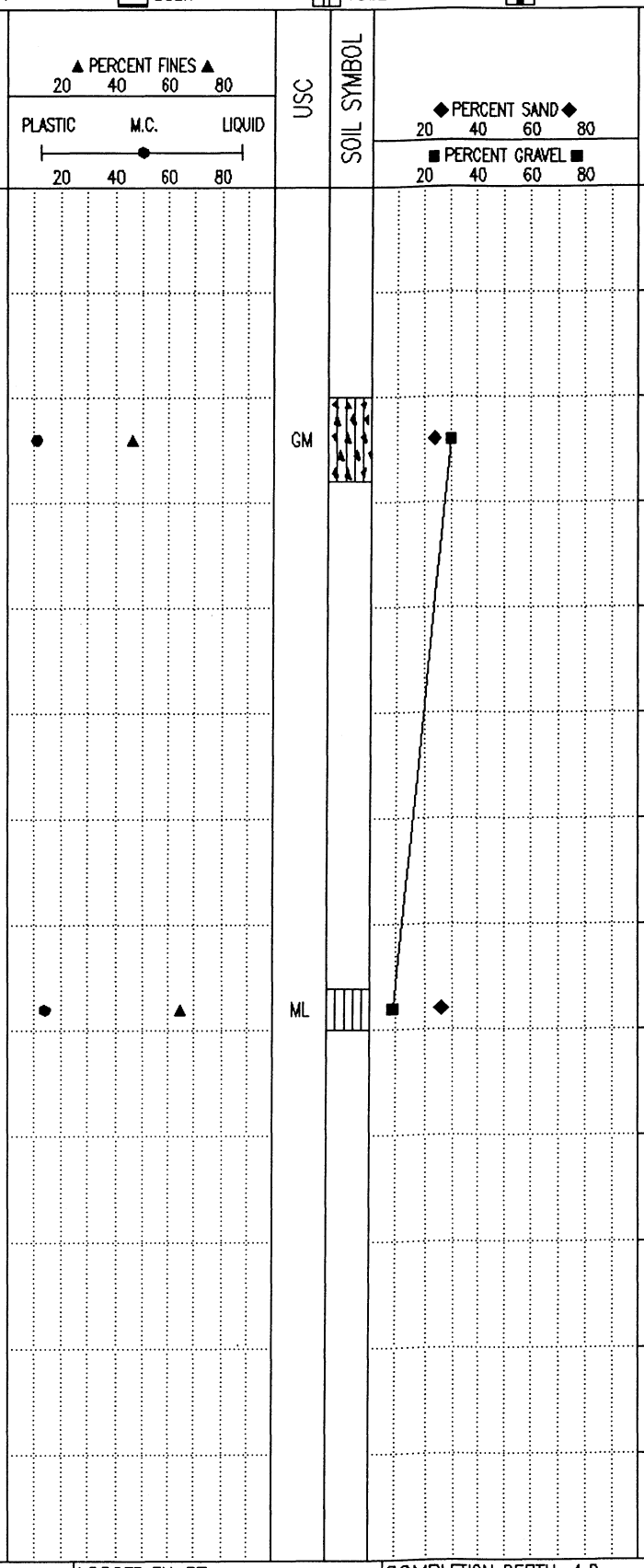
Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 3.3 m
	REVIEWED BY: DT	COMPLETE: 91/09/07
	Fig. No:	Page 1 of 1

93/11/12 11:50AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 258-40
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1909+800	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILTY GRAVEL WITH SAND (GM) -brown -wet				
1.0			94	GM	
	-frozen below 1.6m				
2.0					
	SANDY SILT (ML) -brown -frozen (Vx) with visible ice				
3.0					
			95	ML	
4.0	END HOLE at 4.0m				
5.0					
6.0					



Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.0 m
	REVIEWED BY:	COMPLETE: 93/10/03
	Fig. No:	Page 1 of 1

93/10/28 09:04AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 145-145
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1909+880 o/s 2m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILTY GRAVEL WITH SAND (GM) -brown -moist -some ash -grindy drilling				
1.0		AUGER	402	GM	
2.0	SILTY SAND (SM) -brown -frozen Nb below 2.4m				
3.0		AUGER	403	SM	
4.0	-visible ice Vx below 4.0m				
		AUGER	404	SM	
	END HOLE at 4.6m				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

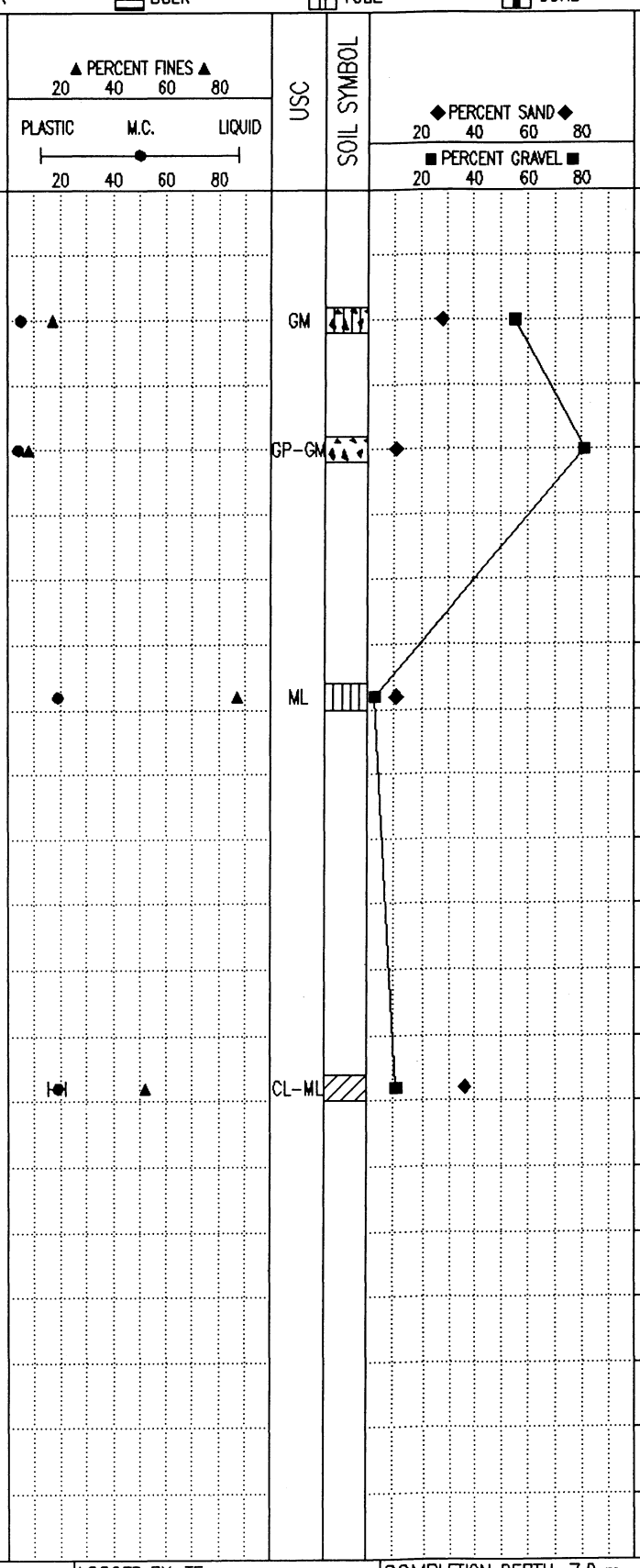
Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 4.6 m
	REVIEWED BY: DT	COMPLETE: 91/09/07
	Fig. No:	Page 1 of 1

93/11/12 11:51AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-34
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1909+900 o/s 18m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ROAD FILL			
	SILTY GRAVEL WITH SAND (GM) -grindy drilling			
1.0		AUGER	93	GM
	POORLY GRADED GRAVEL WITH SILT (GP-GM) -grindy drilling			
2.0		AUGER	94	GP-GM
	SILT (ML) -damp -smooth drilling			
3.0				
4.0		AUGER	95	ML
	SANDY SILTY CLAY (CL-ML) -frozen -smooth drilling			
5.0				
6.0				
7.0		AUGER	96	CL-ML
	END HOLE at 7.0m -in ditch			
8.0				
9.0				
10.0				



Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 7.0 m
	REVIEWED BY:	COMPLETE: 93/09/07
	Fig. No:	Page 1 of 1

93/11/05 11:36AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-24
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1909+985 o/s 2m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -moist -maximum 100mm material -grindy drilling							0.0
1.0								1.0
		AUGER	64	● ▲	GP-GM		◆ ■	
2.0								2.0
		AUGER	65	● ▲	GP-GM		◆ ■	
3.0								3.0
4.0								4.0
		AUGER	66	● ▲	GP-GM		◆ ■	
	END HOLE at 4.6m							
5.0								5.0
6.0								6.0

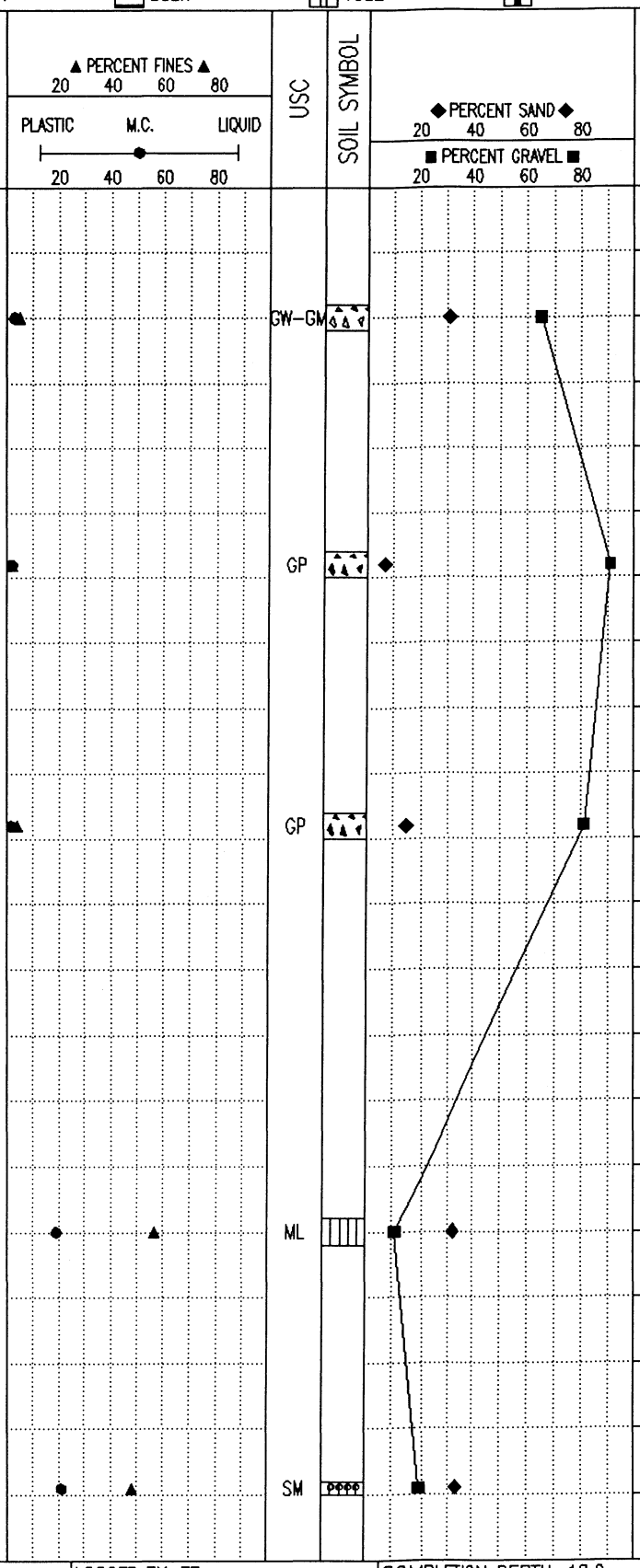
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/13
	Fig. No:	Page 1 of 1

93/11/12 09:25AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 244-19
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1910+075	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -grindy drilling				
1.0		AUGER	51	GW-GM	
2.0	POORLY GRADED GRAVEL TO POORLY GRADED GRAVEL WITH SAND (GP) -grindy drilling				
3.0		AUGER	52	GP	
4.0					
5.0		AUGER	53	GP	
6.0					
	SANDY SILT (ML) -smooth drilling				
7.0					
8.0		AUGER	54	ML	
9.0	SILTY SAND WITH GRAVEL (SM) -smooth drilling				
10.0		AUGER	55	SM	
	END HOLE at 10.0m				



Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 10.0 m
	REVIEWED BY:	COMPLETE: 93/09/03
	Fig. No:	Page 1 of 1

93/09/30 09:15AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 145-149
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1910+175 o/s 2m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL -saturated				
	ORGANIC SILT -brown				
1.0	-frozen Nf below 0.9m				
		AUGER	410	ML	
2.0	ICE				
3.0					
	ORGANIC MATERIAL AND ICE				
4.0					
	END HOLE at 4.6m -water on surface				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 4.6 m
	REVIEWED BY: DT	COMPLETE: 91/09/07
	Fig. No:	Page 1 of 1

93/11/12 11:57AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 145-148
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1910+240 o/s 2m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
	SILT WITH SAND (ML) -dark brown -some organics							
1.0	-frozen Nf below 0.9m							1.0
		X	409	●	ML		■ ◆	
	-grindy drilling at 1.7m							
2.0								2.0
	-first refusal at 2.4m							
	END HOLE at 2.6m -refusal							
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 2.6 m
	REVIEWED BY: DT	COMPLETE: 91/09/07
	Fig. No:	Page 1 of 1

94/03/25 04:08PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 145-147
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1910+305 o/s 2m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
	SILT WITH SAND (ML) -brown gray							
1.0	-grindy drilling at 0.9m -smooth drilling at 1.1m -frozen Nb below 1.3m	X	408	● ▲	ML		◆	1.0
	END HOLE at 1.8m -refusal twice at 1.8m							
2.0								2.0
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 1.8 m
	REVIEWED BY: DT	COMPLETE: 91/09/07
	Fig. No:	Page 1 of 1

93/11/12 11:54AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 145-146
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1910+350	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	POORLY GRADED GRAVEL WITH SAND (GP) -brown -wet -maximum 75mm material -grindy drilling							0.0
1.0		AUGER	405		GP			1.0
	-first refusal at 1.8m							
2.0	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -wet -grindy drilling							2.0
3.0		AUGER	406		GW-GM			3.0
4.0		AUGER	407		GW-GM			4.0
	END HOLE at 4.6m -in old pit							
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 4.6 m
	REVIEWED BY: DT	COMPLETE: 91/09/07
	Fig. No:	Page 1 of 1

93/11/12 11:53AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-25
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1910+450 o/s 8m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -moist -maximum 75mm material augered up -grindy drilling				
1.0		AUGER	67	GW-GM	
2.0					
3.0		AUGER	68	GW-GM	
4.0	WELL-GRADED GRAVEL WITH CLAY AND SAND (GW-GC) -brown -wet	AUGER	69	GW-GC	
5.0	END HOLE at 4.6m				
6.0					

Plot legend: ▲ PERCENT FINES ▲ (20 40 60 80); PLASTIC M.C. LIQUID (20 40 60 80); ◆ PERCENT SAND ◆ (20 40 60 80); ■ PERCENT GRAVEL ■ (20 40 60 80)

Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/13
	Fig. No:	Page 1 of 1

93/11/12 09:27AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-26
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1910+550 o/s 5m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN | S.P.T. | AUGER | BULK | TUBE | CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	SANDY ORGANIC SILT -red brown				
	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -damp -maximum 75mm material augered up				
1.0		AUGER	70	GW-GM	
	-first refusal at 1.6m -very rough slow grindy drilling below 1.7m				
2.0					
3.0	WELL-GRADED GRAVEL WITH SAND (GW) -brown -damp				
4.0		AUGER	71	GW	
	END HOLE at 4.6m -NOTE: broke off auger at 2m				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

DEPTH (m)

Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/13
	Fig. No:	Page 1 of 1

93/11/12 09:28AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-27
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1910+650 o/s 5m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	SILTY GRAVEL WITH SAND (GM) -brown -moist -slightly grindy drilling				
1.0		AUGER	72	GM	
2.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -damp -maximum 50mm material augered up -grindy drilling				
3.0		AUGER	73	GP-GM	
4.0	-no sample from this depth because the bottom auger broke off				
	END HOLE at 4.6m				
5.0					
6.0					

Plot scales: ▲ PERCENT FINES ▲ 20 40 60 80; PLASTIC M.C. LIQUID 20 40 60 80; ◆ PERCENT SAND ◆ 20 40 60 80; ■ PERCENT GRAVEL ■ 20 40 60 80

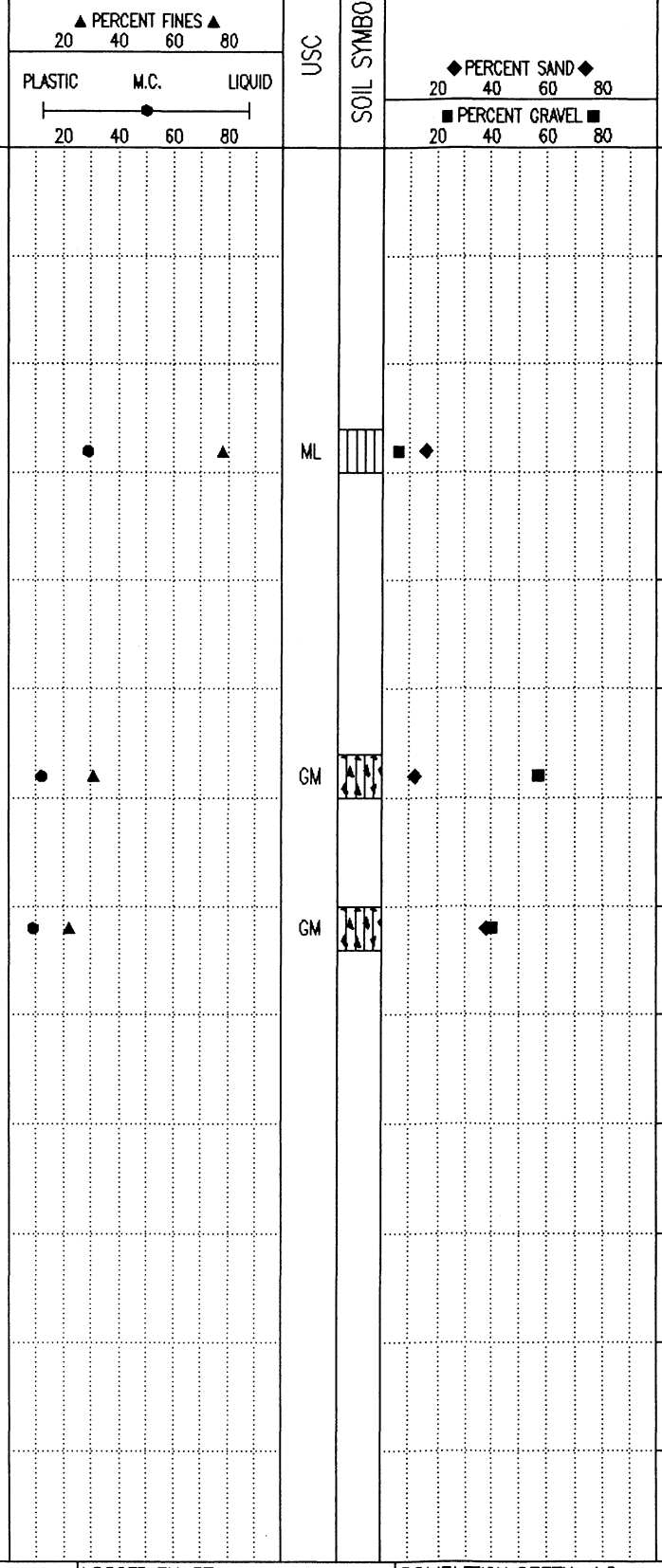
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/13
	Fig. No:	Page 1 of 1

93/11/12 09:30AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-28
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1910+752 o/s 7m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL ORGANIC SILT				
	SILT WITH SAND (ML) -brown -moist				
1.0	-sample #74 contaminated from above	AUGER	74	ML	
	SILTY GRAVEL (GM) -dark brown -wet -grindy drilling				
2.0					
3.0		AUGER	75	GM	
	SILTY GRAVEL WITH SAND (GM) -gray -saturated -easier drilling	AUGER	76	GM	
4.0	END HOLE at 4.2m -refusal				
5.0					
6.0					



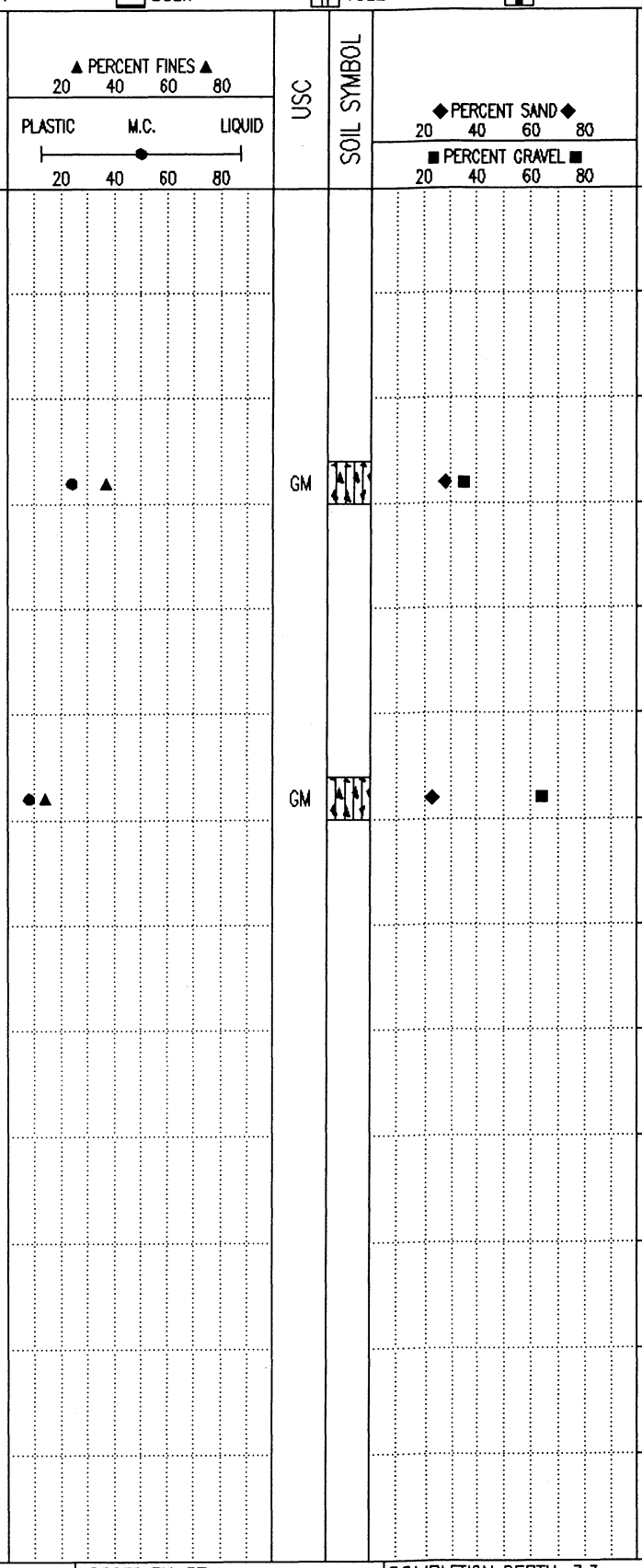
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.2 m
	REVIEWED BY:	COMPLETE: 91/08/13
	Fig. No:	Page 1 of 1

93/11/12 09:31AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-29
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1910+852 o/s 9m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	GRAVELLY ORGANIC MATERIAL -black -grindy drilling				
	SILTY GRAVEL WITH SAND (GM) -brown -damp -organics				
1.0		AUGER	77	GM	
2.0					
	SILTY GRAVEL WITH SAND (GM) -brown -moist				
3.0	-sample #78 contaminated from above	AUGER	78	GM	
	END HOLE at 3.3m -refusal				
4.0					
5.0					
6.0					



Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 3.3 m
	REVIEWED BY:	COMPLETE: 91/08/13
	Fig. No:	Page 1 of 1

93/11/12 09:33AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-30
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1910+975 o/s 2m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILTY GRAVEL WITH SAND (GM) -brown -moist -grindy drilling				
1.0		AUGER	79	GM	
	-rough noisy drilling below 1.6m -first refusal at 1.7m				
2.0	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -moist				
3.0		AUGER	80	GW-GM	
4.0					
	END HOLE at 4.6m				
5.0					
6.0					

Percent fines (▲): 20 40 60 80
Plastic / M.C. / Liquid: 20 40 60 80
Percent sand (◆): 20 40 60 80
Percent gravel (■): 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/13
	Fig. No:	Page 1 of 1

93/11/12 09:34AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 258-41
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1910+975 o/s 5m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILT –brown –moist –trace of sand				
1.0	POORLY GRADED GRAVEL WITH SAND (GP) –brown –moist –maximum 200mm material –estimate 15% +100mm		96	GP	
2.0					
3.0	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) –brown –moist –maximum 200mm material –estimate 15% +100mm				
4.0			97	GW-GM	
	END HOLE at 4.6m				
5.0					
6.0					

Chart: ▲ PERCENT FINES ▲ 20 40 60 80; PLASTIC M.C. LIQUID 20 40 60 80; ◆ PERCENT SAND ◆ 20 40 60 80; ■ PERCENT GRAVEL ■ 20 40 60 80; DEPTH (m) 0.0 1.0 2.0 3.0 4.0 5.0 6.0

Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 93/10/03
	Fig. No:	Page 1 of 1

93/10/28 09:06AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 145-150
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1911+175 o/s 10m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -wet -maximum 75mm material -grindy drilling				
1.0		AUGER	411	GW-GM	
2.0					
	WELL TO POORLY GRADED GRAVEL WITH SAND (GW TO GP) -brown -moist -grindy drilling				
3.0		AUGER	412	GW	
4.0		AUGER	413	GP	
	END HOLE at 4.6m				
5.0					
6.0					

Chart columns: ▲ PERCENT FINES ▲ (20 40 60 80); PLASTIC M.C. LIQUID (20 40 60 80); ◆ PERCENT SAND ◆ (20 40 60 80); ■ PERCENT GRAVEL ■ (20 40 60 80)

Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 4.6 m
	REVIEWED BY: DT	COMPLETE: 91/09/07
	Fig. No:	Page 1 of 1

93/11/12 11:50AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 145-152
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1911+400 o/s 2m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	GRAVELLY SILT (ML)				
1.0	-frozen with visible ice below 0.9m	AUGER	415	ML	
2.0	SILTY GRAVEL WITH SAND (GM) -brown -frozen Nf -grindy drilling				
3.0		AUGER	416	GM	
	END HOLE at 3.3m -refusal				
4.0					
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

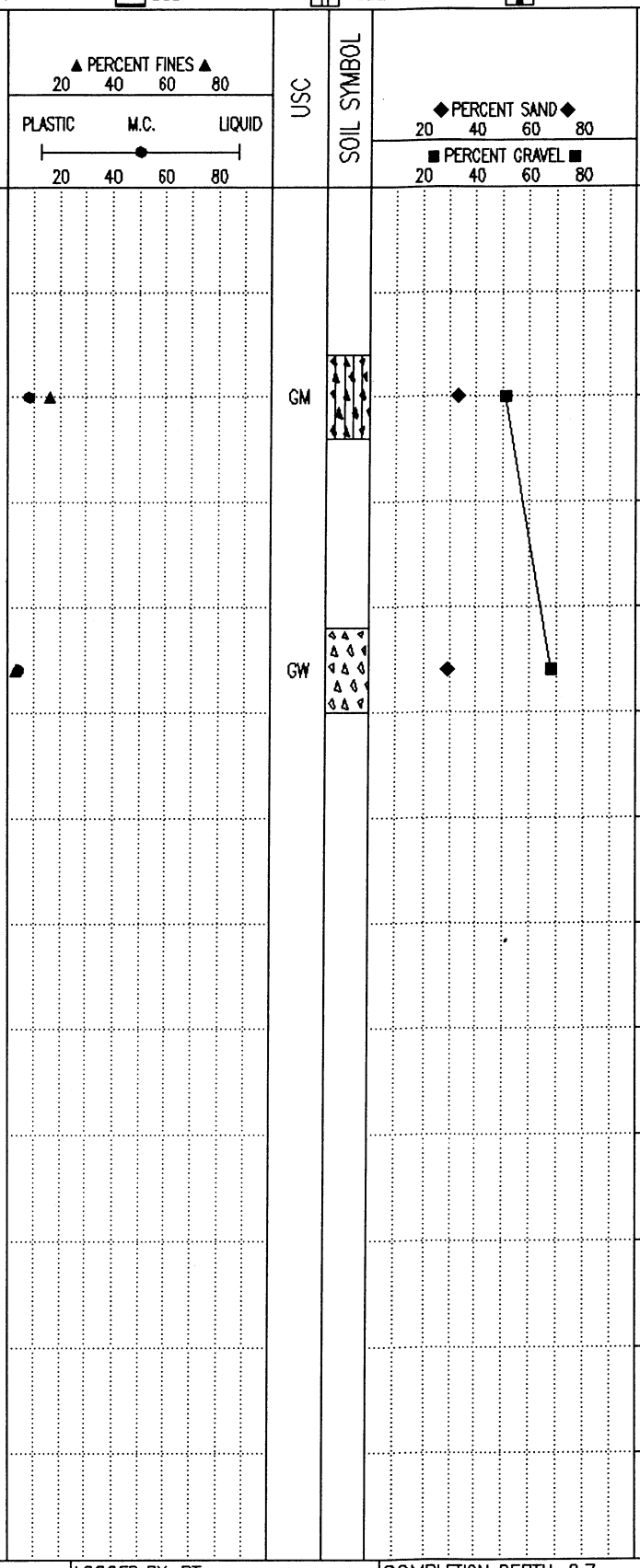
Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 3.3 m
	REVIEWED BY: DT	COMPLETE: 91/09/07
	Fig. No:	Page 1 of 1

93/11/12 12:02PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 258-42
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
BACKHOE: CAT 235	LOCATION: Sta. 1911+425	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILTY GRAVEL WITH SAND (GM) -brown -some cobbles -frozen with visible ice (Vx) below 0.5m		98	GM	
1.0					
	WELL-GRADED GRAVEL WITH SAND (GW) -brown -frozen with visible ice (Vx) -maximum 100mm material		99	GW	
2.0					
	END HOLE at 2.7m				
3.0					
4.0					
5.0					
6.0					



Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 2.7 m
	REVIEWED BY:	COMPLETE: 93/10/03
	Fig. No:	Page 1 of 1

93/11/01 11:14AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 145-153
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1911+500	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
	SILT -brown							
1.0	-frozen Vx below 0.9m							1.0
	SILTY SAND WITH GRAVEL (SM) -brown -frozen Nf -grindy drilling		417	● ▲	SM		■ ◆	
	END HOLE at 1.6m							
2.0	-refusal							2.0
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 1.6 m
	REVIEWED BY: DT	COMPLETE: 91/09/07
	Fig. No:	Page 1 of 1

93/11/12 12:03PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-32
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1911+650	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	SILTY GRAVEL WITH SAND (GM) -brown -damp -maximum 75mm material -grindy drilling				
1.0		AUGER	83	GM	
2.0	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -damp -maximum 75mm material -grindy drilling				
3.0		AUGER	84	GW-GM	
	GRAVELLY SAND -brown -moist -some silt -easier drilling				
4.0		AUGER	85		
	END HOLE at 4.8				
5.0					
6.0					

Plot scales: ▲ PERCENT FINES ▲ 20 40 60 80; PLASTIC M.C. LIQUID 20 40 60 80; ◆ PERCENT SAND ◆ 20 40 60 80; ■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/13
	Fig. No:	Page 1 of 1

93/11/12 09:37AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 145-154
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1911+750 o/s 4m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
	WELL-GRADED GRAVEL WITH SAND (GW) -brown -maximum 50mm material augered up							
1.0								1.0
		AUGER	418		GW			
2.0								2.0
3.0								3.0
4.0								4.0
		AUGER	419		GW			
	END HOLE at 4.6m -beside old borrow pit							
5.0								5.0
6.0								6.0

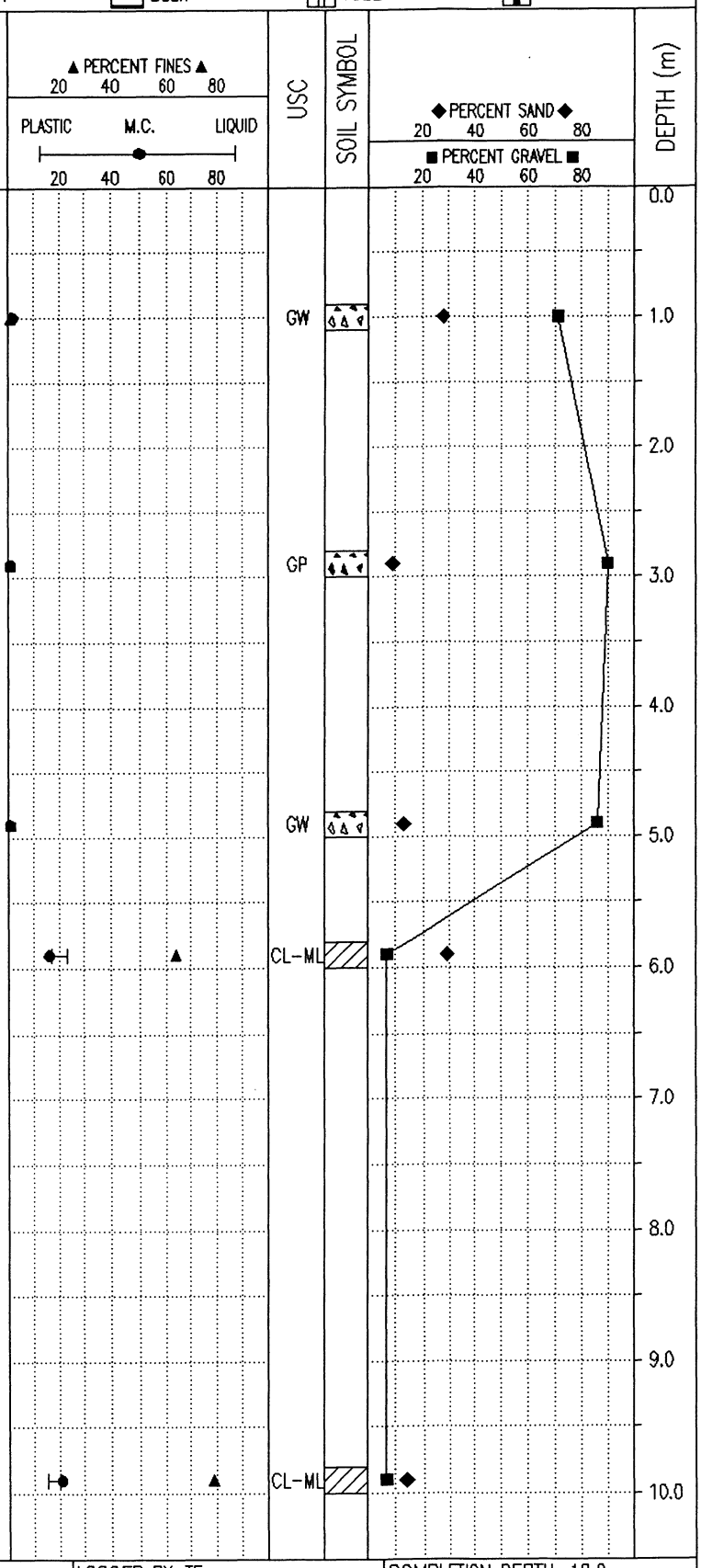
Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 4.6 m
	REVIEWED BY: DT	COMPLETE: 91/09/07
	Fig. No:	Page 1 of 1

93/11/12 12:05PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 244-20
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1911+800	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	WELL-GRADED GRAVEL WITH SAND (GW) -grindy drilling				
1.0		AUGER	56	GW	
2.0	POORLY TO WELL-GRADED GRAVEL (GP TO GW) -grindy drilling -very few fines augering up				
3.0		AUGER	57	GP	
4.0					
5.0		AUGER	58	GW	
	SANDY SILTY CLAY (CL-ML) -wet -smooth drilling -frozen (Nb) below 5.3m				
6.0		AUGER	59	CL-ML	
7.0					
8.0	SILTY CLAY WITH SAND (CL-ML) -wet -smooth drilling				
9.0					
10.0		AUGER	60	CL-ML	
	END HOLE at 10.0m				



Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 10.0 m
	REVIEWED BY:	COMPLETE: 93/09/03
	Fig. No:	Page 1 of 1

93/10/04 10:36AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 145-155
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1911+850 o/s 4m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SANDY SILT -brown -moist -trace of gravel				
1.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -damp -maximum 50mm material augered up -grindy drilling	AUGER	420	GP-GM	
2.0	SILTY SAND WITH GRAVEL (SM) -brown -saturated -smooth drilling	AUGER	421	SM	
3.0					
4.0	LEAN CLAY (CL) -brown -saturated -frozen Vx below 4.2m	AUGER	422	CL	
	END HOLE at 4.6m				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 4.6 m
	REVIEWED BY: DT	COMPLETE: 91/09/07
	Fig. No:	Page 1 of 1

93/11/12 12:06PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-33
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1911+925	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ROAD FILL			
1.0	SILTY GRAVEL WITH SAND (GM) -brown -moist -some organics	AUGER	86	GM
2.0	SILTY SAND WITH GRAVEL (SM) -some organics	AUGER	87	SM
3.0	SILTY GRAVEL WITH SAND (GM) -brown -saturated -maximum 50mm material augered up -rough noisy jumpy drilling	AUGER	88	GM
4.0	END HOLE at 4.6m			
5.0				
6.0				

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/13
	Fig. No:	Page 1 of 1

93/11/12 09:39AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-34
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1912+003	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -damp -grindy drilling	AUGER	89	GP-GM	
1.0					
2.0	POORLY GRADED GRAVEL WITH SAND (GP) -brown -damp -maximum 50mm material augered up -noisy grindy drilling	AUGER	90	GP	
3.0					
4.0	SILTY SAND WITH GRAVEL (SM) -brown -saturated -easy drilling -sample #91 contaminated from above	AUGER	91	SM	
5.0	END HOLE at 4.6m -in old side borrow				
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/13
	Fig. No:	Page 1 of 1

93/11/12 09:40AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 145-156
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1912+075	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	WELL-GRADED GRAVEL WITH SAND (GW) -brown -wet -maximum 75mm material augered up -slow grindy drilling							0.0
1.0		AUGER	423	●	GW		◆ ■	1.0
2.0	SILT (ML) -gray and brown -wet -smooth drilling							2.0
3.0		AUGER	424	● ▲	ML		■ ◆	3.0
4.0	-possibly frozen and melted augering up, saturated, no sample recovered at 3.7m							4.0
	SILTY SAND -gray -some gravel							
5.0	END HOLE at 4.6m -in old borrow pit							5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 4.6 m
	REVIEWED BY: DT	COMPLETE: 91/09/08
	Fig. No:	Page 1 of 1

93/11/12 12:08PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 145-157
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1912+100 o/s 55m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	WELL TO POORLY GRADED GRAVEL WITH SAND (GW TO GP) -brown -wet -maximum 75mm material augered up -grindy drilling				
1.0		AUGER	425	GW	
2.0					
3.0		AUGER	426	GW	
	-saturated below 3.4m -smooth drilling below 3.4m				
4.0		AUGER	427	GP	
	END HOLE at 4.6m -possibly water table at 3.4m -in old borrow pit				
5.0					
6.0					

Plots: ▲ PERCENT FINES ▲ (20 40 60 80); PLASTIC M.C. LIQUID (20 40 60 80); ◆ PERCENT SAND ◆ (20 40 60 80); ■ PERCENT GRAVEL ■ (20 40 60 80)

Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 4.6 m
	REVIEWED BY: DT	COMPLETE: 91/09/08
	Fig. No:	Page 1 of 1

93/11/12 12:09PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-31
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1912+200 o/s 21m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES (20 40 60 80) / PLASTIC M.C. LIQUID (20 40 60 80)	USC	SOIL SYMBOL	PERCENT SAND / PERCENT GRAVEL (20 40 60 80)	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -moist -hard drilling							
1.0			74		GW-GM			1.0
2.0								2.0
	WELL-GRADED SAND WITH SILT AND GRAVEL (SW-SM) -brown -moist -hard drilling							
			75		SW-SM			
3.0	END HOLE at 3.0m -refusal -in swamp -surface water may have affected sample moisture contents							3.0
4.0								4.0
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 3.0 m
	REVIEWED BY:	COMPLETE: 92/06/08
	Fig. No:	Page 1 of 1

93/11/12 12:53PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-30
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1912+300 o/s 3m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	WELL-GRADED GRAVEL WITH SAND (GW) -brown -moist -hard drilling -maximum 75mm material augered up	AUGER	71	GW	
1.0					
2.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -moist	AUGER	72	GP-GM	
3.0					
4.0	WELL-GRADED SAND WITH SILT AND GRAVEL (SW-SM) -brown -damp	AUGER	73	SW-SM	
	END HOLE at 4.5m -spruce cover				
5.0					
6.0					

Plot: ▲ PERCENT FINES ▲ (20 40 60 80); PLASTIC M.C. LIQUID (20 40 60 80); ◆ PERCENT SAND ◆ (20 40 60 80); ■ PERCENT GRAVEL ■ (20 40 60 80)

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/06/08
	Fig. No:	Page 1 of 1

93/11/12 12:51PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-29
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1912+400	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -dry -hard drilling -maximum 50mm material augered up							
1.0		AUGER	70		GW-GM			1.0
2.0	END HOLE at 2.1m -refusal -spruce cover							2.0
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 2.1 m
	REVIEWED BY:	COMPLETE: 92/06/08
	Fig. No:	Page 1 of 1

93/11/12 12:50PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-35
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1912+600 o/s 2m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -damp -maximum 50mm material augered up -grindy drilling				
1.0		AUGER	92	GW-GM	
2.0					
3.0		AUGER	93	GW-GM	
4.0	WELL-GRADED SAND WITH SILT AND GRAVEL (SW-SM) -brown -wet	AUGER	94	SW-SM	
5.0	END HOLE at 4.6m				
6.0					

Plot: ▲ PERCENT FINES ▲ (20 40 60 80); PLASTIC M.C. LIQUID (20 40 60 80); ◆ PERCENT SAND ◆ (20 40 60 80); ■ PERCENT GRAVEL ■ (20 40 60 80)

Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/13
	Fig. No:	Page 1 of 1

93/11/12 09:42AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-36
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1912+700 o/s 2m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⧄ S.P.T. ☒ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -damp -maximum 50mm material augered up -grindy drilling							0.0
1.0		☒	95		GW-GM		◆ ■	1.0
2.0	-noisy grindy drilling below 1.9m							2.0
3.0		☒	96		GW-GM		◆ ■	3.0
4.0								4.0
	SILT? -saturated -no sample recovered END HOLE at 4.6m							
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/13
	Fig. No:	Page 1 of 1

93/11/12 09:44AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-37
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1912+800	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	POORLY GRADED GRAVEL WITH SAND (GP) -brown -damp -maximum 75mm material augered up -grindy drilling							0.0
1.0		AUGER	97		GP			1.0
2.0								2.0
3.0		AUGER	98		GP			3.0
	POORLY GRADED SAND WITH GRAVEL (SP) -brown -wet to saturated -easier drilling							
4.0		AUGER	99		SP			4.0
	END HOLE at 4.6m -drilled in old pit area							
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/14
	Fig. No:	Page 1 of 1

93/11/12 09:45AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-38
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1912+900 o/s 3m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -damp -slightly grindy drilling				
1.0		AUGER	100	GP-GM	
2.0	-moist below 1.9m -maximum 75mm material augered up -grindy drilling below 1.9m				
3.0		AUGER	101	GP-GM	
4.0		AUGER	102	GP-GM	
	END HOLE at 4.6m				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/14
	Fig. No:	Page 1 of 1

93/11/12 09:47AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-39
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1913+000 o/s 6m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	SILTY GRAVEL WITH SAND (GM) -brown -damp -grindy drilling				
1.0		AUGER	103	GM	
2.0	POORLY TO WELL-GRADED GRAVEL WITH SILT AND SAND (GP-GM TO GW-GM) -brown -moist -maximum 75mm material augered up -noisy jumpy drilling				
3.0		AUGER	104	GP-GM	
4.0					
		AUGER	105	GW-GM	
	END HOLE at 4.6m				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/14
	Fig. No:	Page 1 of 1

93/11/12 09:48AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-40
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1913+100 o/s 16m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	GRAVELLY SILT -old road material				
1.0	SANDY SILT (ML) -brown -moist -organic -smooth drilling	AUGER	106	ML	
2.0	SILTY GRAVEL WITH SAND (GM) -brown -moist -grindy drilling				
3.0		AUGER	107	GM	
4.0	-saturated below 3.9m -easy drilling below 3.9m				
	-sample #108 contaminated from above	AUGER	108	GM	
	END HOLE at 4.6m -water at 3.9m				
5.0					
6.0					

Plot: ▲ PERCENT FINES ▲ (20, 40, 60, 80); PLASTIC — M.C. — LIQUID (20, 40, 60, 80); ◆ PERCENT SAND ◆ (20, 40, 60, 80); ■ PERCENT GRAVEL ■ (20, 40, 60, 80)

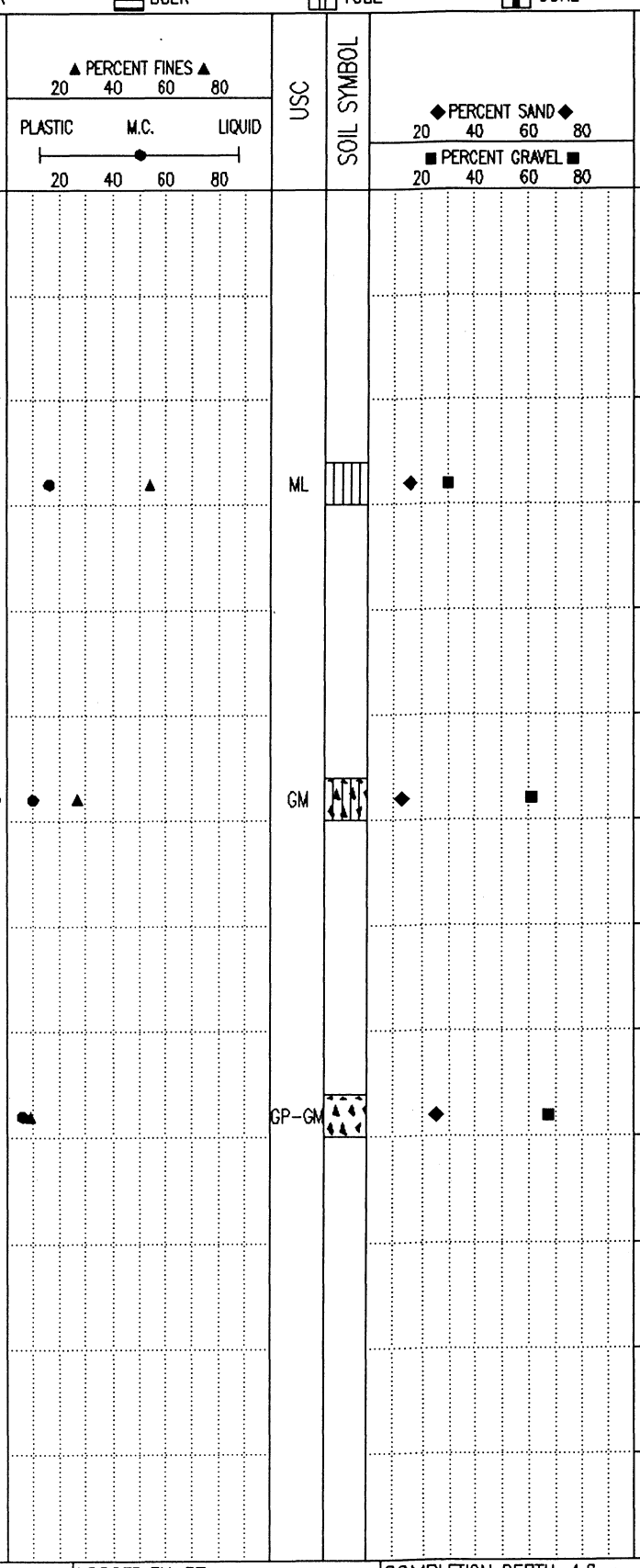
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/14
	Fig. No:	Page 1 of 1

93/11/12 09:50AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-41
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1913+200 o/s 4m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN | S.P.T. | AUGER | BULK | TUBE | CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILTY ORGANIC MATERIAL -smooth drilling				
	GRAVELLY SILT WITH SAND (ML) -brown -saturated				
1.0		AUGER	109	ML	
2.0					
	SILTY GRAVEL (GM) -brown -saturated				
3.0	-sample #110 contaminated from above	AUGER	110	GM	
	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -saturated -maximum 50mm material				
4.0	-sample #111 washed during recovery	AUGER	111	GP-GM	
	END HOLE at 4.6m -water at 3.1m				
5.0					
6.0					



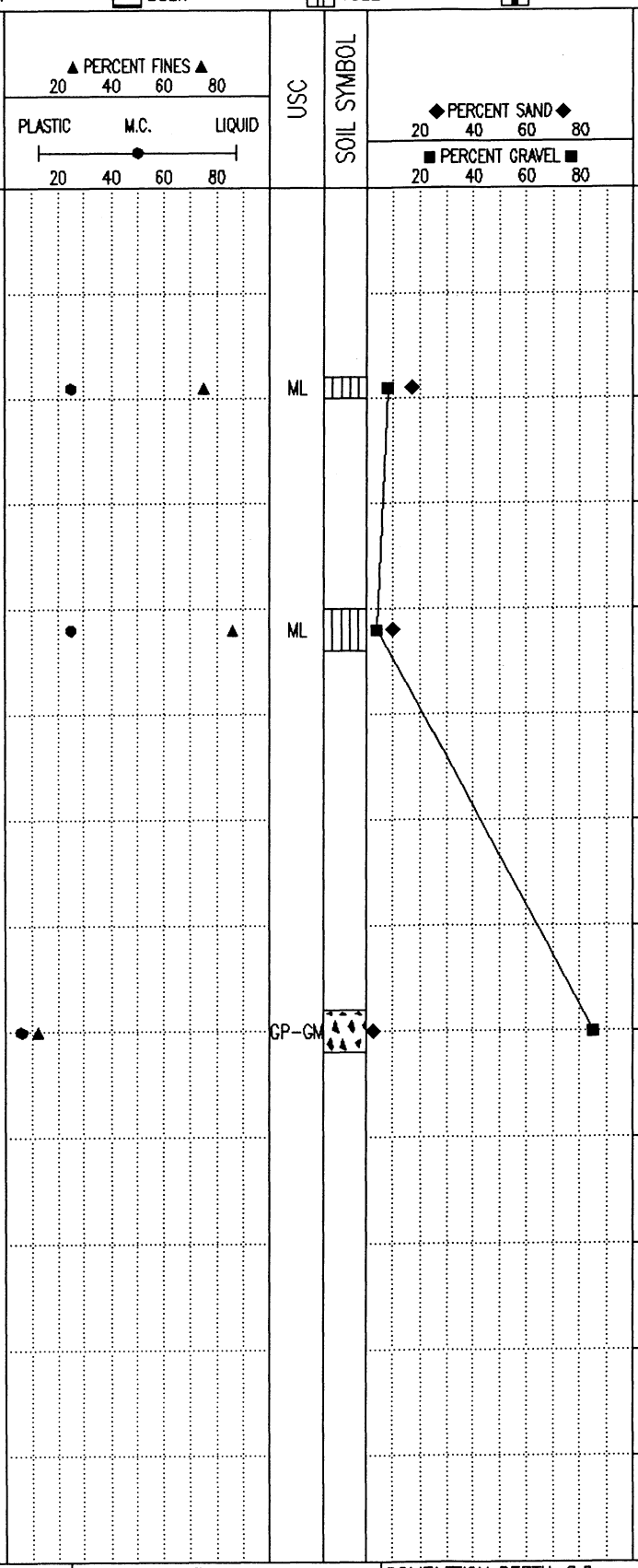
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/14
	Fig. No:	Page 1 of 1

93/11/12 09:51AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 244-21
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1913+250	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILT WITH SAND TO SILT (ML) —easy drilling				
1.0		AUGER	60	ML	
2.0		AUGER	61	ML	
3.0	POORLY GRADED GRAVEL WITH SILT (GP-GM) —hard grindy drilling				
4.0		AUGER	62	GP-GM	
5.0					
6.0	END HOLE at 6.0m —refusal				



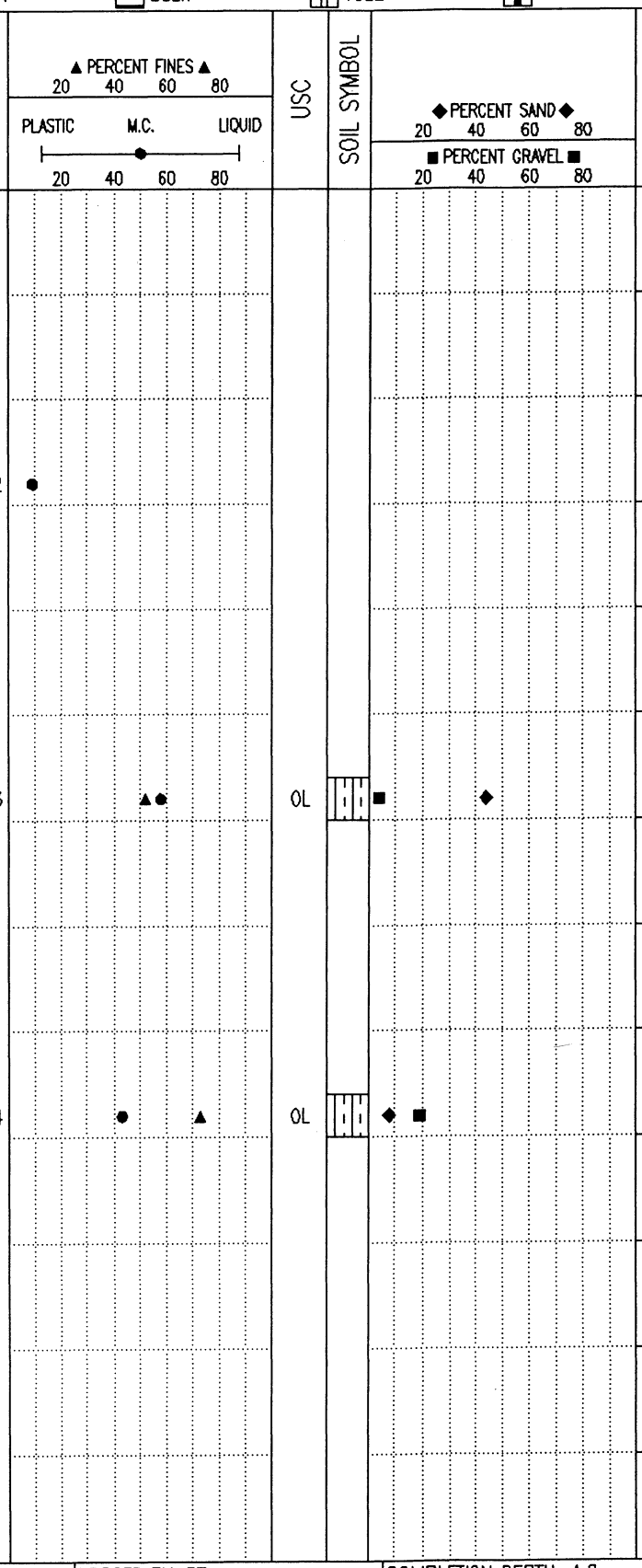
Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 6.0 m
	REVIEWED BY:	COMPLETE: 93/09/04
	Fig. No:	Page 1 of 1

93/10/01 02:20PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-42
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1913+300	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	GRAVELLY SILT -brown -saturated -some sand -possible road fill	AUGER	112		
2.0	SANDY SILT & ORGANIC (OL) -frozen, no visible ice	AUGER	113	OL	TUBE
4.0	SILT -frozen, visible ice crystals -gray -some organic and gravel	AUGER	114	OL	TUBE
	END HOLE at 4.6m -on old road shoulder				
6.0					



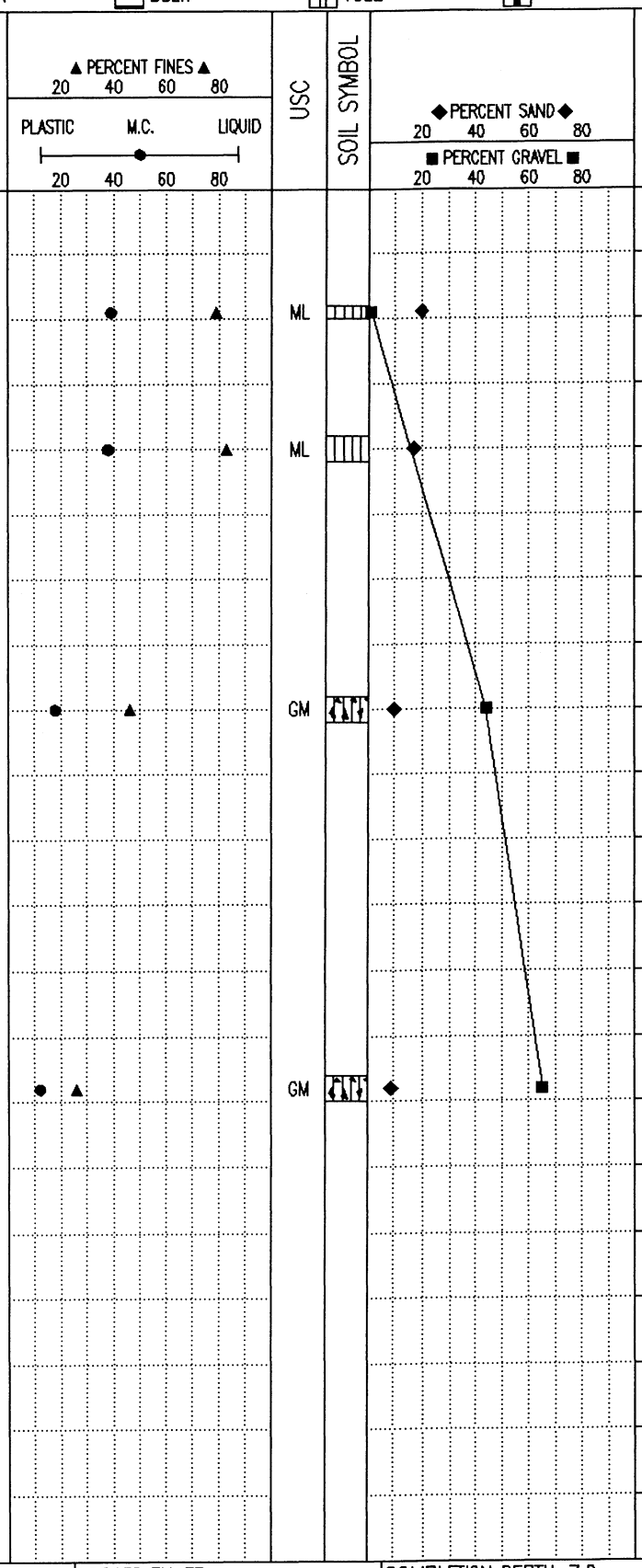
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/14
	Fig. No:	Page 1 of 1

93/11/12 09:53AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 244-22
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1913+350 o/s 9m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC
0.0	ORGANIC MATERIAL			
	SILT WITH SAND (ML)			
	-easy drilling			
1.0		AUGER	63	ML
	-organics below 1.2m			
2.0		AUGER	64	ML
3.0	SILTY GRAVEL (GM)			
4.0		AUGER	65	GM
5.0				
6.0				
7.0		AUGER	66	GM
	END HOLE at 7.0m			
8.0				
9.0				
10.0				



Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 7.0 m
	REVIEWED BY:	COMPLETE: 93/09/04
	Fig. No:	Page 1 of 1

93/10/01 02:22PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 140-43
SHAKWAK PROJECT	A/H Km 1904-1932	Project No: SEGMENT 17
17-225 & 17-174	LOCATION: 1913+412 o/s 7m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	SILTY SAND WITH GRAVEL (SM) -brown black -moist -some organics -smooth drilling				
1.0		AUGER	115	SM	
2.0	SILT WITH SAND (ML) -brown -saturated				
3.0		AUGER	116	ML	
4.0	SILTY SAND WITH GRAVEL (SM) -gray -saturated -slightly grindy drilling				
		AUGER	117	SM	
	END HOLE at 4.6m				
5.0					
6.0					

▲ PERCENT FINES ▲ (20, 40, 60, 80)

PLASTIC — M.C. — LIQUID (20, 40, 60, 80)

◆ PERCENT SAND ◆ (20, 40, 60, 80)

■ PERCENT GRAVEL ■ (20, 40, 60, 80)

Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/14
	Fig. No:	Page 1 of 1

93/11/12 09:56AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 141-47
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1913+500 o/s 7m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SILTY GRAVEL WITH SAND (GM) -brown -damp -grindy drilling							0.0
1.0								1.0
		X	126	● H ▲	GM		◆■	
2.0								2.0
	SILTY SAND WITH GRAVEL (SM) -brown -damp							
		X	127	● H ▲	SM		■ ◆	
3.0								3.0
4.0								4.0
		X	128	● ▲	SM		■ ◆	
	END HOLE at 4.6m							
5.0								5.0
6.0								6.0

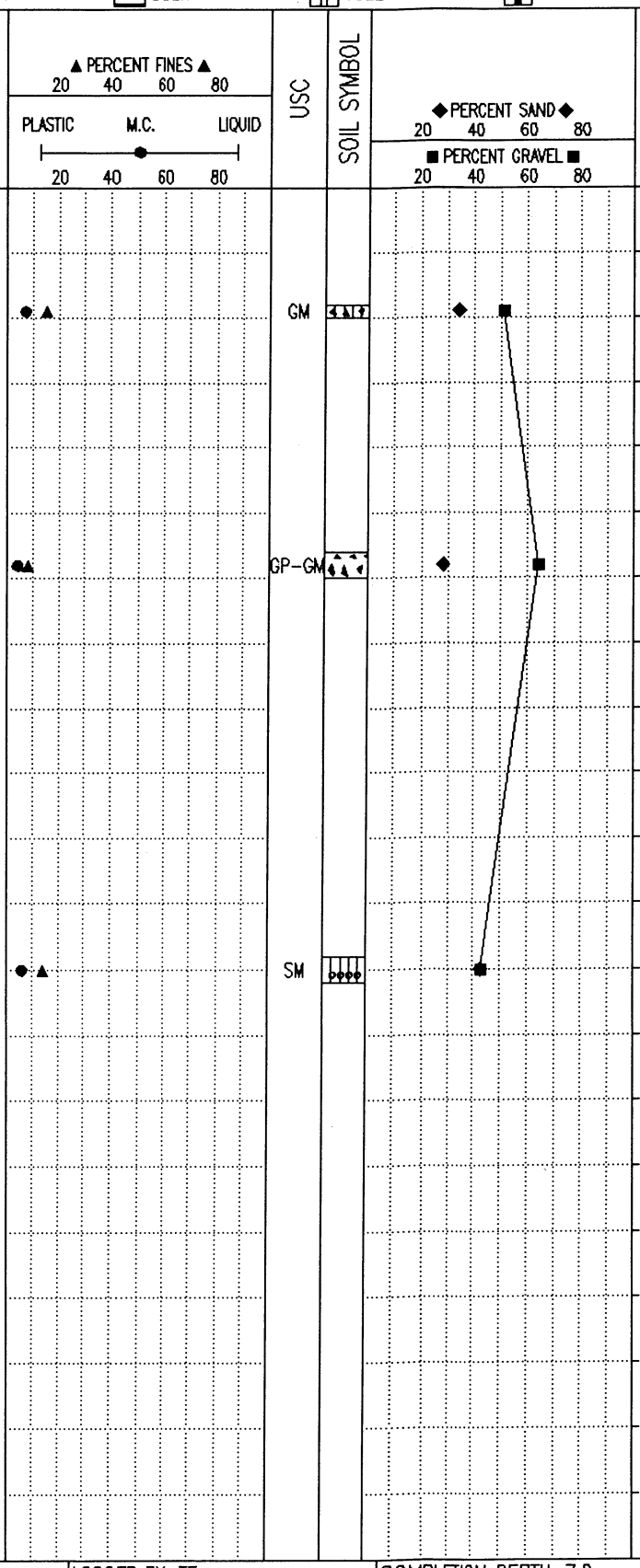
Government of Yukon Transportation Engineering	LOGGED BY: DT	COMPLETION DEPTH: 4.6 m
	REVIEWED BY:	COMPLETE: 91/08/14
	Fig. No:	Page 1 of 1

94/03/25 04:06PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 244-23
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1913+575 o/s 3m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⧄ S.P.T. ☒ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	SILTY GRAVEL WITH SAND (GM) -organics -road fill -easy drilling	☒	67	GM	
1.0					
2.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -easy drilling				
3.0		☒	68	GP-GM	
4.0					
5.0					
	SILTY SAND WITH GRAVEL (SM) -easy grindy drilling				
6.0 ▼	-water below 6.0m	☒	69	SM	
7.0	END HOLE at 7.0m				
8.0					
9.0					
10.0					



Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 7.0 m
	REVIEWED BY:	COMPLETE: 93/09/04
	Fig. No:	Page 1 of 1

93/10/01 02:23PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-28
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1913+600 o/s 7m Lt	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⧄ S.P.T. ☒ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
	SILTY CLAY -brown -frozen with visible ice crystals (Vx) -easy drilling -sample #67 lost in transit							
1.0		☒	67					1.0
	SILT (ML) -gray -frozen (Nb)							
2.0								2.0
3.0		☒	68	●	ML	▥	◆	3.0
4.0								4.0
	SILTY GRAVEL WITH SAND (GM) -brown -damp	☒	69	● ⊢	GM	▥	◆	
	END HOLE at 4.5m							
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/06/08
	Fig. No:	Page 1 of 1

93/11/12 12:48PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-27
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1913+700 o/s 3m Lt	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	SILT (ML) -brown -damp -organic -easy drilling				
1.0		AUGER	65	ML	
	SILT WITH GRAVEL (ML) -gray -damp				
2.0					
3.0	-hard drilling below 3.1m	AUGER	66	ML	
4.0	END HOLE at 4.0m -refusal				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.0 m
	REVIEWED BY:	COMPLETE: 92/06/08
	Fig. No:	Page 1 of 1

93/11/12 12:47PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 141-48
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1913+808 o/s 2m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES (20 40 60 80) / PLASTIC M.C. LIQUID (20 40 60 80)	USC	SOIL SYMBOL	PERCENT SAND / PERCENT GRAVEL (20 40 60 80)	DEPTH (m)
0.0	ORGANIC MATERIAL -black							0.0
	SANDY SILT WITH GRAVEL (ML) -brown -saturated -smooth drilling							
1.0		AUGER	129		ML			1.0
2.0								2.0
	GRAVELLY SILT WITH SAND (ML) -brown -frozen with visible ice crystals below 2.4m							
3.0		AUGER	130		ML			3.0
	SILT WITH SAND (ML) -brown -visible ice lenses, well bonded							
4.0		AUGER	131		ML			4.0
	END HOLE at 4.6m							
5.0								5.0
6.0								6.0

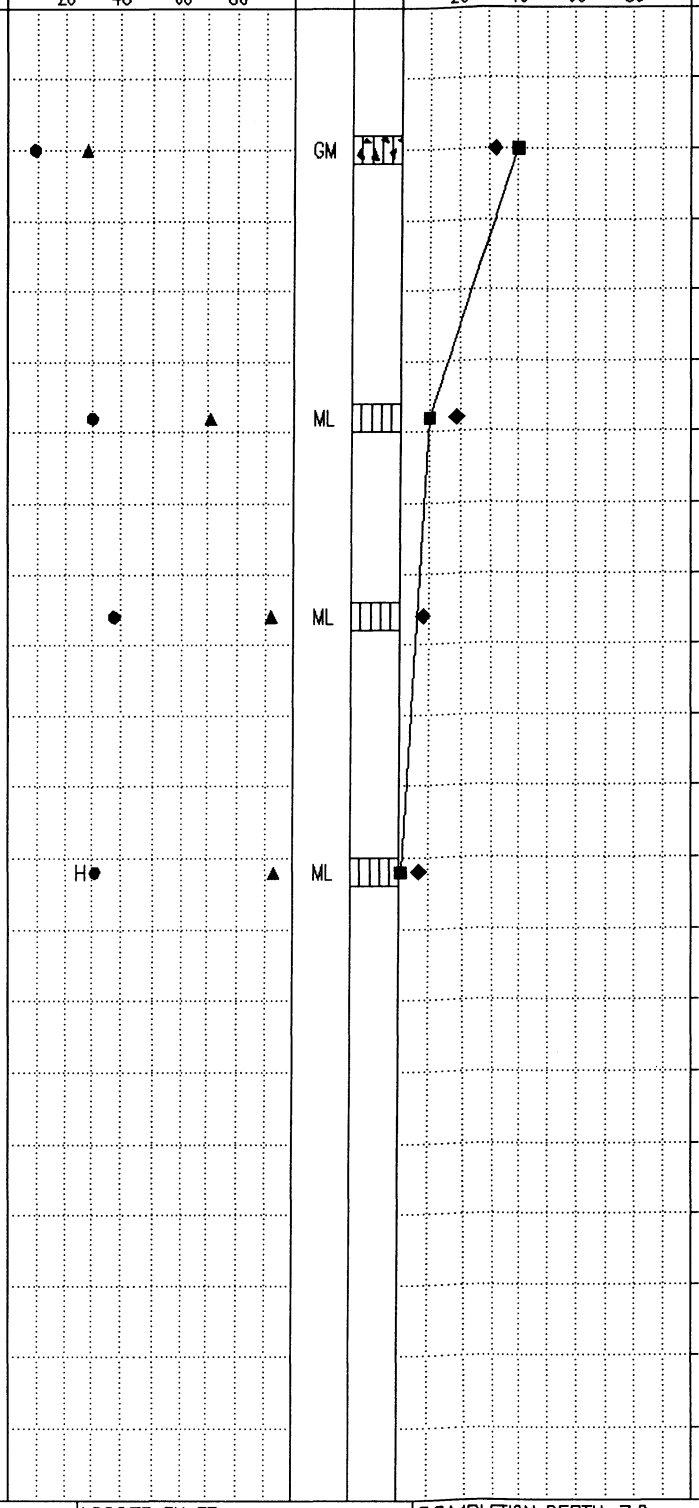
Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 4.6 m
	REVIEWED BY: DT	COMPLETE: 91/08/14
	Fig. No:	Page 1 of 1

93/11/12 11:30AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 244-24
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1913+850 o/s 2m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⧄ S.P.T. ☒ AUGER ☰ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	SILTY GRAVEL WITH SAND (GM) -grindy drilling				
1.0		☒	70	GM	
2.0					
	SILT WITH SAND (ML) -wet -smooth easy drilling				
3.0		☒	71	ML	
4.0					
	SILT (ML) -smooth easy drilling -frozen				
4.0		☒	72	ML	
5.0					
6.0		☒	73	ML	
7.0	END HOLE at 7.0m				
8.0					
9.0					
10.0					



Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 7.0 m
	REVIEWED BY:	COMPLETE: 93/09/04
	Fig. No:	Page 1 of 1

93/10/04 10:37AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-26
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1913+900 o/s 10m Lt	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC MATERIAL –easy drilling							0.0
1.0								1.0
	SILTY, CLAYEY SAND WITH GRAVEL (SC-SM) –dry		62	● H ▲	SC-SM		◆	
2.0								2.0
	SILTY GRAVEL WITH SAND (GM) –wet –harder drilling							
3.0								3.0
4.0								4.0
	–easy drilling below 4.2m		64	● ▲	GM		◆ ■	
	END HOLE at 4.5m							
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/06/08
	Fig. No:	Page 1 of 1

93/11/12 12:45PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-25
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1914+000 o/s 8m Lt	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES (20 40 60 80) / PLASTIC M.C. LIQUID (20 40 60 80)	USC	SOIL SYMBOL	PERCENT SAND / PERCENT GRAVEL (20 40 60 80)	DEPTH (m)
0.0	ORGANIC MATERIAL -easy drilling							0.0
1.0	SILTY GRAVEL WITH SAND (GM) -brown -moist -harder drilling -maximum 38mm material augered up	AUGER	59	H	GM			1.0
2.0								2.0
3.0		AUGER	60	H	GM			3.0
4.0	SILTY SAND WITH GRAVEL (SM) -gray -moist -easy drilling	AUGER	61		SM			4.0
	END HOLE at 4.5m							
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/06/08
	Fig. No:	Page 1 of 1

93/11/12 12:44PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 141-49
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1914+075 o/s 8m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES (20 40 60 80) / PLASTIC M.C. LIQUID (20 40 60 80)	USC	SOIL SYMBOL	PERCENT SAND / PERCENT GRAVEL (20 40 60 80)	DEPTH (m)
0.0	SILTY SAND WITH GRAVEL (SM) -brown -moist -first refusal at 0.3m							0.0
1.0		AUGER	132	● ▲	SM		■◆	1.0
2.0	SILTY GRAVEL WITH SAND (GM) -brown -wet							2.0
3.0		AUGER	133	● ▲	GM		◆■	3.0
	-saturated below 3.65m							
4.0		AUGER	134	● ▲	GM		■	4.0
	END HOLE at 4.6m -in old pit							
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 4.6 m
	REVIEWED BY: DT	COMPLETE: 91/08/14
	Fig. No:	Page 1 of 1

93/11/12 11:31AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 175-24
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1914+075 o/s 90m Lt	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN | S.P.T. | AUGER | BULK | TUBE | CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	SILTY GRAVEL (GM) -brown -damp -hard drilling	AUGER	57	GM	
1.0					
2.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -moist	AUGER	58	GP-GM	
3.0					
4.0	END HOLE at 4.0m -refusal				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.0 m
	REVIEWED BY:	COMPLETE: 92/06/08
	Fig. No:	Page 1 of 1

93/11/12 12:42PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 174-23
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1914+125 o/s 100m Lt	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN | S.P.T. | AUGER | BULK | TUBE | CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
1.0	SILTY GRAVEL (GM) -brown -moist -maximum 75mm material augered up	AUGER	54	GM	
2.0	SILTY GRAVEL WITH SAND (GM) -brown -moist	AUGER	55	GM	
3.0	SILTY GRAVEL (GM) -brown -moist	AUGER	56	GM	
4.0	END HOLE at 4.0m -refusal				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.0 m
	REVIEWED BY:	COMPLETE: 92/06/08
	Fig. No:	Page 1 of 1

93/11/12 12:41PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 141-50
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1914+275 o/s 5m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	SILTY GRAVEL WITH SAND (GM) -brown -damp -some organics -grindy drilling				
1.0		AUGER	135	GM	
2.0	-wet below 2.15m				
3.0		AUGER	136	GM	
	-saturated below 3.65m -no more organics below 3.65m				
4.0		AUGER	137	GM	
	END HOLE at 4.6m				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 4.6 m
	REVIEWED BY: DT	COMPLETE: 91/08/14
	Fig. No:	Page 1 of 1

93/11/12 11:33AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 141-51
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1914+375 o/s 2m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	SANDY SILTY GRAVEL -brown -damp -maximum 50mm material -possibly road fill				
1.0		AUGER	138		
	SILTY GRAVEL WITH SAND (GM) -brown -moist				
2.0					
3.0		AUGER	139	GM	
	-saturated below 3.6m -soft drilling below 3.6m				
4.0		AUGER	140	GM	
	END HOLE at 4.6m				
5.0					
6.0					

Scales: ▲ PERCENT FINES ▲ 20 40 60 80; PLASTIC M.C. LIQUID 20 40 60 80; ◆ PERCENT SAND ◆ 20 40 60 80; ■ PERCENT GRAVEL ■ 20 40 60 80

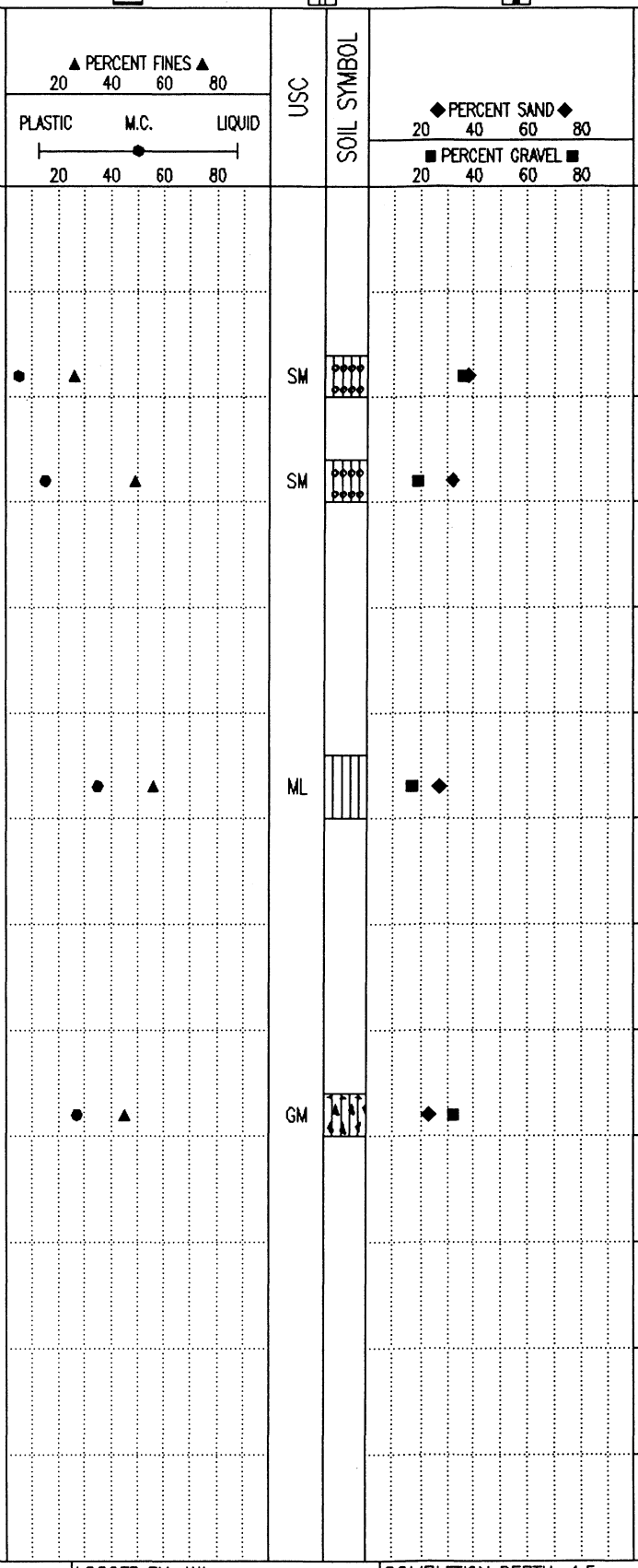
Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 4.6 m
	REVIEWED BY: DT	COMPLETE: 91/08/14
	Fig. No:	Page 1 of 1

93/11/12 11:34AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 174-22
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1914+475 o/s 30m Lt	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ☒ S.P.T. ☒ AUGER ▤ BULK ▥ TUBE ▥ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILTY SAND WITH GRAVEL (SM) -brown				
1.0		☒	50	SM	
		☒	51	SM	
2.0					
	SANDY SILT WITH GRAVEL (ML) -frozen (Nb) -dark brown -hard drilling	☒	52	ML	
3.0					
	SILTY GRAVEL WITH SAND (GM) -brown -frozen with ice crystals (Vx)				
4.0		☒	53	GM	
	END HOLE at 4.5m -spruce cover				
5.0					
6.0					



Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/06/08
	Fig. No:	Page 1 of 1

93/11/12 12:39PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 174-21
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1914+575 o/s 25m Lt	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES (20 40 60 80) / PLASTIC M.C. LIQUID (20 40 60 80)	USC	SOIL SYMBOL	PERCENT SAND / PERCENT GRAVEL (20 40 60 80)	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
	SILTY GRAVEL WITH SAND (GM) -frozen with ice crystals (Vx)							
1.0		X	47	● H ▲	GM		◆■	1.0
	SILT (ML) -frozen (Nb)							
2.0								2.0
3.0		X	48	● ▲	ML		■◆	3.0
	ICE WITH SOIL							
4.0		X	49	● ▲	GM		◆ ■	4.0
	END HOLE at 4.5m -spruce cover							
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/06/08
	Fig. No:	Page 1 of 1

93/11/12 12:38PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 141-52
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1914+625 o/s 3m Rt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL -black				
	SILT WITH SAND (ML) -brown -wet -smooth drilling				
1.0		AUGER	141	ML	
2.0					
	SILTY GRAVEL WITH SAND (GM) -brown -wet				
3.0		AUGER	142	GM	
4.0	END HOLE at 3.9m -refusal				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 3.9 m
	REVIEWED BY: DT	COMPLETE: 91/08/14
	Fig. No:	Page 1 of 1

93/11/12 11:36AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 141-53
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1914+725 o/s 5m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	GRAVELLY SANDY SILT -brown -damp -old road fill				
1.0	SILTY SAND WITH GRAVEL (SM) -brown -damp	AUGER	143	SM	
2.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -brown -damp	AUGER	144	GP-GM	
3.0					
4.0	POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM) -brown -wet	AUGER	145	SP-SM	
5.0	END HOLE at 4.6m				
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 4.6 m
	REVIEWED BY: DT	COMPLETE: 91/08/14
	Fig. No:	Page 1 of 1

93/11/12 11:37AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 141-54
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1914+825	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	GRAVELLY SANDY SILT -BROWN -DAMP -old road fill				
1.0	ORGANIC SILTY GRAVEL WITH SAND -black	AUGER	146	GM	
2.0	SILTY GRAVEL WITH SAND (GM) -saturated -maximum 50mm material -grindy drilling	AUGER	147	GM	
3.0					
4.0	-gray below 4.0m -free water	AUGER	148	GM	
5.0	END HOLE at 4.6m -water below 2.1m				
6.0					

Plot: ▲ PERCENT FINES (20 40 60 80); PLASTIC — M.C. — LIQUID (20 40 60 80); ◆ PERCENT SAND (20 40 60 80); ■ PERCENT GRAVEL (20 40 60 80)

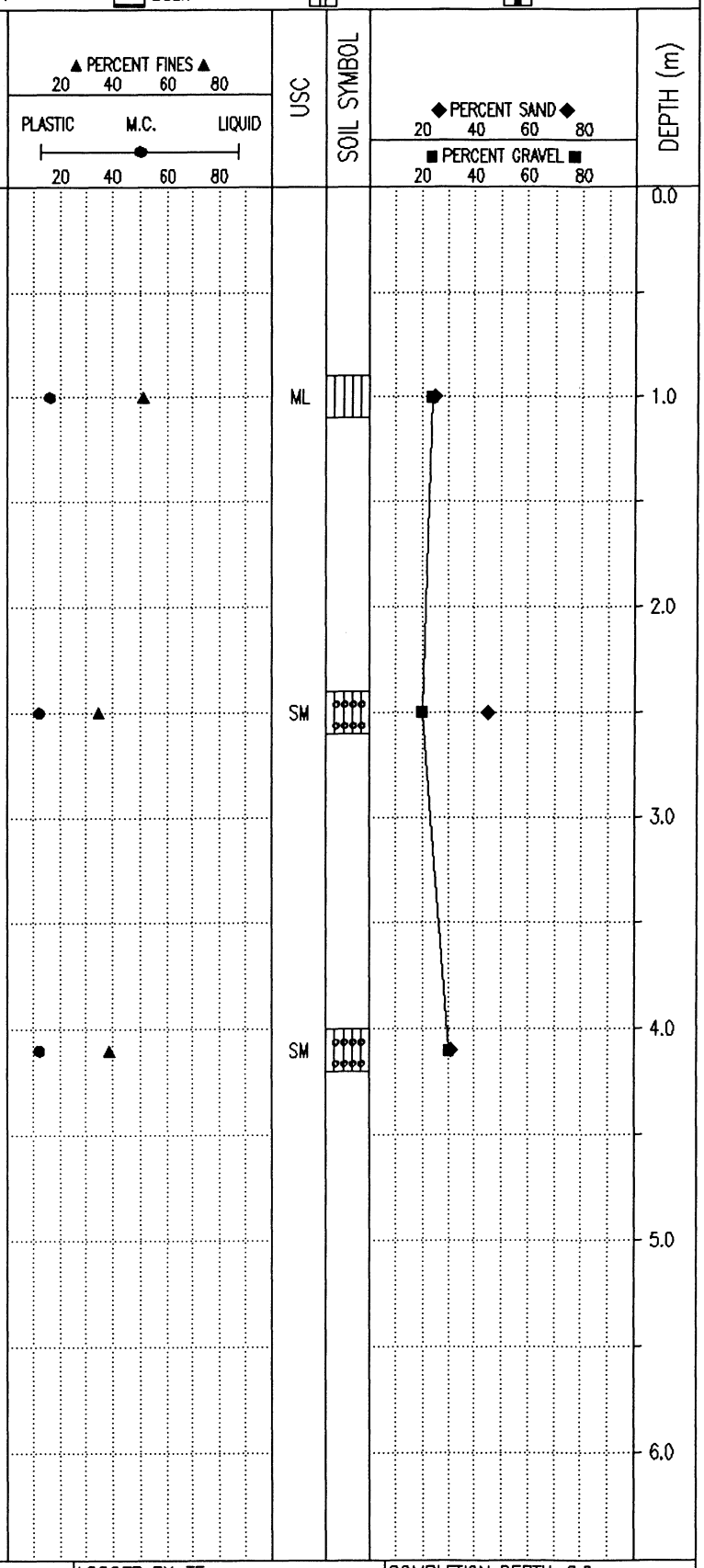
Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 4.6 m
	REVIEWED BY: DT	COMPLETE: 91/08/14
	Fig. No:	Page 1 of 1

93/11/12 11:39AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 244-28
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1914+850 o/s 3m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⧄ S.P.T. ☒ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SANDY SILT WITH GRAVEL (ML) -wet -easy drilling				
1.0		☒	80	ML	
	SILTY SAND WITH GRAVEL (SM) -wet -easy drilling				
2.0					
		☒	81	SM	
3.0					
4.0		☒	82	SM	
5.0					
6.0	END HOLE at 6. 0m				



Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 6.0 m
	REVIEWED BY:	COMPLETE: 93/09/04
	Fig. No:	Page 1 of 1

93/10/01 02:31PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 141-55
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1914+925 o/s 2m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILT WITH SAND (OL) -organic -brown -wet -smooth drilling				
1.0		AUGER	149	ML	
2.0					
	SILT (ML) -gray -wet	AUGER	150	ML	
3.0					
	SILT WITH SAND (OL) -organic -gray -wet				
4.0		AUGER	151	ML	
	END HOLE at 4.6m				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

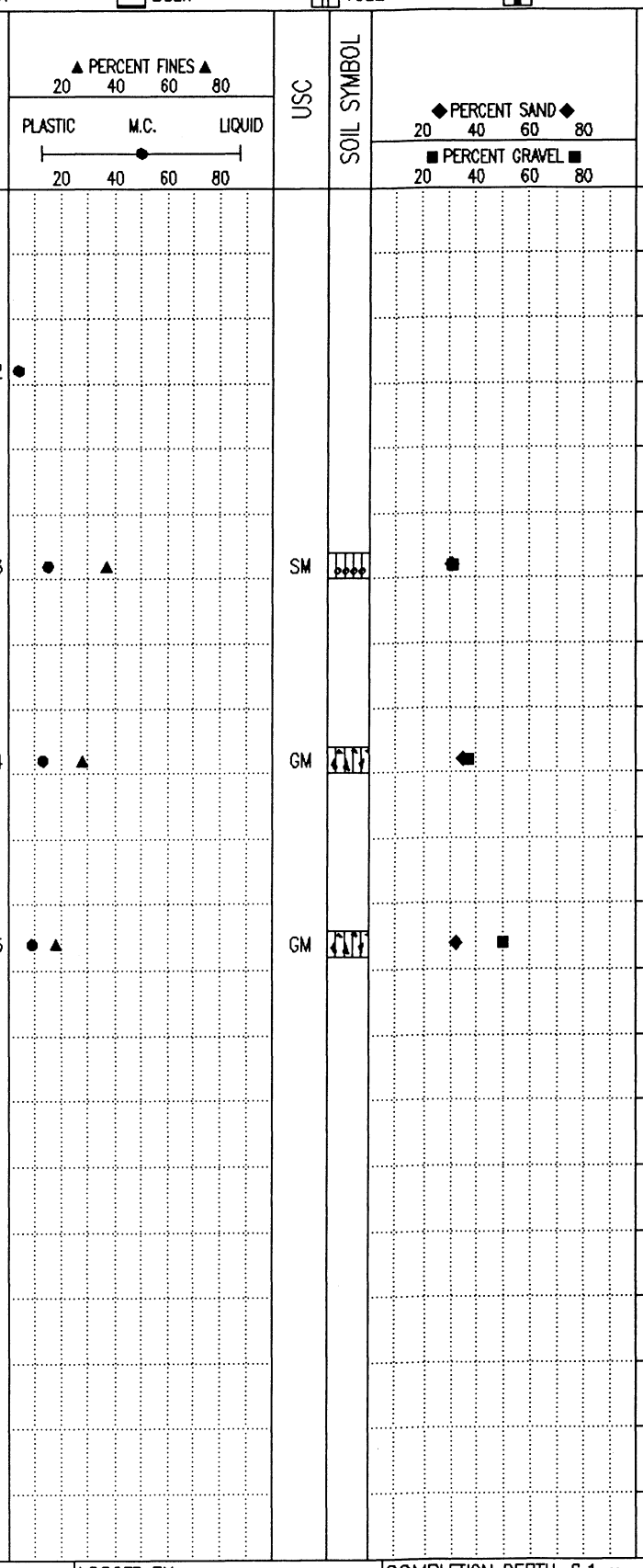
Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 4.6 m
	REVIEWED BY: DT	COMPLETE: 91/08/14
	Fig. No:	Page 1 of 1

93/11/12 11:40AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 141-56
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1915+030 o/s 1m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	GRAVELLY SANDY SILT -brown -damp -road fill -noisy jumpy drilling	AUGER	152		
1.0					
2.0	SILTY SAND WITH GRAVEL (SM) -black -wet -organic -smooth drilling	AUGER	153	SM	
3.0					
4.0	SILTY GRAVEL WITH SAND (GM) -gray -saturated	AUGER	154	GM	
5.0	-frozen with visible ice crystals below 5.3m	AUGER	155	GM	
6.0	END HOLE at 6.1m -on old road				
7.0					
8.0					
9.0					
10.0					



Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 6.1 m
	REVIEWED BY: DT	COMPLETE: 91/08/15
	Fig. No:	Page 1 of 1

93/11/12 11:42AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 141-57
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1915+125 o/s 6m Lt.	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	SILTY GRAVEL WITH SAND (GM) -brown -damp -trace of organics -grindy drilling				
1.0		AUGER	156	GM	
	-smooth drilling below 1.8m				
2.0	-wet below 2.2m -slightly grindy drilling below 2.2m				
3.0		AUGER	157	GM	
4.0	-saturated below 4.0m				
		AUGER	158	GM	
	END HOLE at 4.6m -on old road				
5.0					
6.0					

Plot: ▲ PERCENT FINES ▲ (20 40 60 80); PLASTIC M.C. LIQUID (20 40 60 80); ◆ PERCENT SAND ◆ (20 40 60 80); ■ PERCENT GRAVEL ■ (20 40 60 80)

Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 4.6 m
	REVIEWED BY: DT	COMPLETE: 91/08/15
	Fig. No:	Page 1 of 1

93/11/12 11:44AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 141-58
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1915+225	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	WELL TO POORLY TO WELL-GRADED GRAVEL WITH SAND (GW TO GP TO GW) -brown -damp -maximum 50mm material -grindy drilling				
1.0		AUGER	159	GW	
2.0					
3.0		AUGER	160	GP	
4.0		AUGER	161	GW	
	END HOLE at 4.6m				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 4.6 m
	REVIEWED BY: DT	COMPLETE: 91/08/15
	Fig. No:	Page 1 of 1

93/11/12 11:45AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 141-59
SHAKWAK PROJECT	A/H KM 1904-1932	Project No: 745927
17-225 & 17-174	LOCATION: 1915+325	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	SANDY GRAVEL -brown -saturated -road fill				
1.0	SILTY SAND (SM) -highly organic -black -wet to saturated	AUGER	162	SM	
2.0	SILT WITH SAND (ML) -gray -saturated -trace of organics	AUGER	163	ML	
4.0	WELL-GRADED GRAVEL WITH SILT AND SAND (GW-GM) -brown -saturated -maximum 50mm material -grindy drilling	AUGER	164	GW-GM	
	END HOLE at 4.6m				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

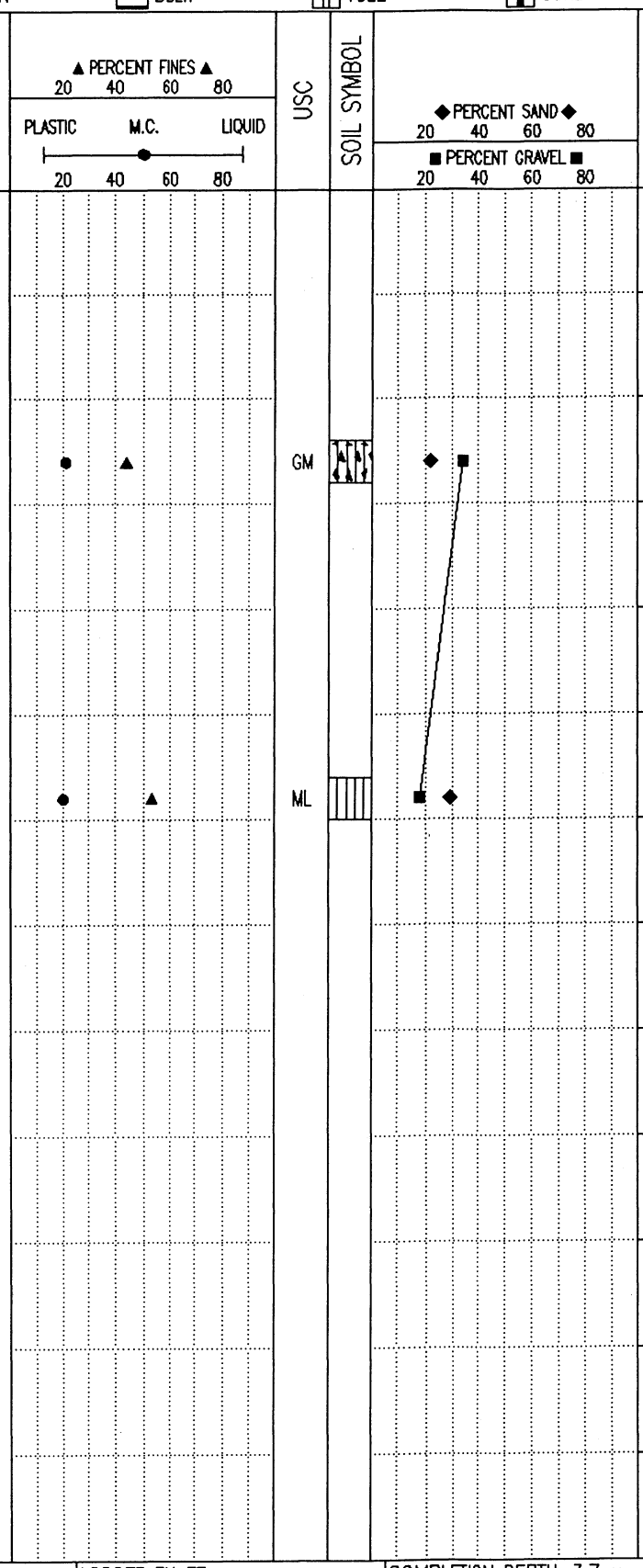
Government of Yukon Transportation Engineering	LOGGED BY:	COMPLETION DEPTH: 4.6 m
	REVIEWED BY: DT	COMPLETE: 91/08/15
	Fig. No:	Page 1 of 1

93/11/12 11:47AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST HOLE NO: 245-33
SHAKWAK PROJECT	SEGMENT 16	Project No: 202101-0312-193
DRILL:CME 750 150mm Dia SOLID STEM AUGER	LOCATION: STA 1915+375	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	SILTY GRAVEL WITH SAND (GM) -easy drilling	AUGER	91	GM	
3.0	SANDY SILT WITH GRAVEL (ML) -frozen below 3.2m	AUGER	92	ML	
4.0	END HOLE at 3.7m -refusal				



Government of Yukon Transportation Engineering	LOGGED BY: TF	COMPLETION DEPTH: 3.7 m
	REVIEWED BY:	COMPLETE: 93/09/07
	Fig. No:	Page 1 of 1

93/11/05 11:34AM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 174-20
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1915+425 o/s 2m Rt	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES (20 40 60 80) / PLASTIC M.C. LIQUID	USC	SOIL SYMBOL	PERCENT SAND / PERCENT GRAVEL	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
1.0	SILT (ML) -brown -damp -easy drilling	AUGER	44		ML			1.0
	SILT WITH SAND (ML) -gray -damp -harder drilling							
2.0								2.0
		AUGER	45		ML			
3.0								3.0
	SILT (ML) -gray -damp							
4.0		AUGER	46	H	ML			4.0
	END HOLE at 4.5m							
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/06/06
	Fig. No:	Page 1 of 1

93/11/12 12:36PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 174-19
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1915+525 o/s 15m Lt	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES (20 40 60 80) / PLASTIC M.C. LIQUID (20 40 60 80)	USC	SOIL SYMBOL	PERCENT SAND (20 40 60 80) / PERCENT GRAVEL (20 40 60 80)	DEPTH (m)
0.0	ORGANIC MATERIAL –frozen (Nf)							0.0
	SILT (ML) –brown –wet –water at 0.4m –easy drilling							
1.0		AUGER	41		ML			1.0
2.0								2.0
	–gray below 2.8m –frozen with ice lenses below 2.8m (Vr)	AUGER	42		ML			3.0
3.0								
4.0								4.0
		AUGER	43		ML			
	END HOLE at 4.5m							
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/06/06
	Fig. No:	Page 1 of 1

93/11/12 12:36PM

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY RE-CONSTRUCTION	TEST HOLE NO: 174-18
SHAKWAK PROJECT	SEGMENT 17	Project No: 202101 0304
DRILL: B40L 150mm SOLID STEM AUGER	LOCATION: STA 1915+625 o/s 20m Lt	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN, S.P.T., AUGER, BULK, TUBE, CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC MATERIAL –visible ice (Vx) –easy drilling							0.0
	SILT (ML) –gray –frozen with visible ice (Vx)							
1.0								1.0
		X	39	H ● ▲	ML		◆	
2.0								2.0
	–harder drilling below 2.2m							
		X	40	● ▲	ML		◆	
3.0	ICE WITH SOIL							3.0
4.0								4.0
	END HOLE at 4.5m							
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: AW	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 92/06/06
	Fig. No:	Page 1 of 1

93/11/12 12:33PM